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ABSTRACT

This report details the findings of the Florida Postsecondary Education Planning Commission in its evaluation of the Florida Center for Library Automation (FCLA), library automation in Florida, and networking and resource sharing among the state's libraries. An introductory chapter defines terms and outlines data gathering activities, while the second chapter provides background information on library automation, library networking in Florida and nationwide, the FCLA, and the benefits and costs of automation. The details of research activities presented in the third chapter provide information on surveys of library directors, interviews with students, faculty, and library personnel, reviews of library automation efforts in other states, and an analysis of the current system of library automation and networking in Florida which was conducted by an external consultant team. The final chapter discusses issues and makes recommendations in the following areas: (1) the establishment of a state policy for library automation and networking; (2) the mission, scope, and governance of the FCLA; (3) library automation in community colleges; (4) expansion of FCLA services; (5) meeting the needs of private academic, public, and special libraries; and (6) costs and financing. An executive summary of the report is provided, and copies of the surveys, the interview schedule, reviews of library automation efforts in other states, and the consultants' report on automation and networking in Florida are appended. (MES)

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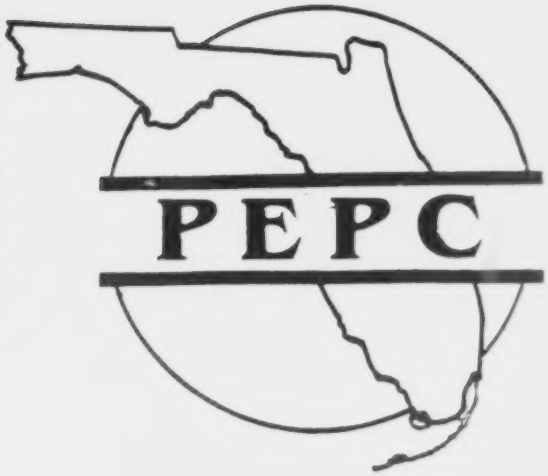

AUTOMATION AND NETWORKING FOR FLORIDA LIBRARIES

Report and Recommendations of the Postsecondary Education Planning Commission

1988 - REPORT 3

IR053360

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POSTSECONDARY EDUCATION PLANNING COMMISSION

AUTOMATION AND NETWORKING FOR FLORIDA LIBRARIES

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EXECUTIVE SUMMARY

In proviso language accompanying the 1987 General Appropriations Act, the Postsecondary Education Planning Commission was directed to conduct an evaluation of the Florida Center for Library Automation (FCLA) in terms of its mission, governance, scope and fiscal implications. Commission staff met initially with appropriate officials from the FCLA, the Board of Regents, the State Board of Community Colleges, the Department of State's Division of Library and Information Services, and legislative staff to clarify the direction of the study. From the onset, the Commission decided that it was necessary to broaden the scope of the study to include not only an evaluation of the FCLA and library automation in Florida, but also networking and resource sharing among Florida's libraries, which must be the State's primary goals.

The FCLA provides a comprehensive, integrated system for the automation of the state university libraries. The 1984 proviso language accompanying the appropriation for the creation of the FCLA, however, required a plan that would include services to community college, private academic, and public libraries in Florida as well. The legislative charge was not clear in regard to the nature and extent of such services, the timeline for when services should be made available, the priority for extension of services, or the actual types of libraries to which centralized automation services should be extended. The goals set forth in the 1984 plan for the FCLA, submitted to the Board of Regents by the University of Florida, paralleled those contained in the legislative proviso and thus were also subject to varying interpretations.

Both the proviso language and the University of Florida plan seemed to assume that the FCLA should be the instrumentality for automating libraries in Florida. The deeper the Commission probed, the less tenable this assumption became. One reason is that doubt exists as to whether current FCLA software, hardware and staff can accommodate or are appropriate for additional libraries. Also, the more institutions which affiliate with the FCLA, the less satisfactory service each is likely to experience. Further, to change the governance structure of the FCLA to accommodate new users who wish a voice in the determination of priorities would in effect lessen the influence of the state universities which the FCLA was created to serve. Resulting dissatisfaction with the services related to the FCLA could lead to many undesirable results. Not to change the structure might result in the dissatisfaction of new affiliates who regard themselves as under or improperly served. The Commission believes that Florida and its libraries would be better served by a combination of alternate courses of action rather than the unlimited expansion of the FCLA to community college and other types of libraries.

If a state-level policymaking body is to be effective in assuring a compatible system of automation by libraries so that library networking is eventually possible, it must have statutory authority to support its recommendations. The statewide plan for library networking and automation developed by King Research, a nationally recognized consulting firm in the field of library automation, resulted in the establishment of the Florida Library Network Policy Board by the Department of State's Division of Library and Information

Services. This policy board has no statutory authority to enforce policy. Hence, it is questionable whether under the current organizational structure, the policy board would be capable of performing the significant duties assigned by the Division of Library and Information Services. The Commission calls for the creation of a statutory policy board which would develop a master plan to guide library networking and automation for the State of Florida. The board would approve plans and review budget requests for library networking and automation to ensure compatibility among hardware and software systems throughout the State.

A major perceived complication about the desirable and possible scope of the FCLA arises from the early inclusion of two community colleges in the FCLA's activities. The voiced desire of other community colleges to become affiliates of the FCLA seems in reality an expression of a desire to enjoy the benefits of library automation received by these two colleges. Yet, for many community college libraries attachment to the FCLA would be neither cost effective nor offer the services which a less expensive software package might provide. On the basis of testimony provided by FCLA staff and others during the Commission's public hearings, as well as surveys conducted by the Commission and the State Board of Community Colleges, the Commission believes that it is probably neither feasible nor desirable for the FCLA to be expanded to include all community colleges. Instead, the State Board of Community Colleges should develop an inclusive plan for the automation of community colleges that provides support for library automation on an incremental basis over a period of years, and outlines a set of criteria to guide decisions about which community colleges might receive automated services from the FCLA. Priority for inclusion in the FCLA should be given to community college libraries that are shared jointly with state universities.

King Research recommended that the expansion of the Florida Information Resource Network (FIRN) be considered for use as the primary telecommunications provider responsible for interlibrary communication among all public, academic, school and special libraries in Florida. FIRN electronically links all public educational institutions (public schools, community colleges, state universities) for the rapid and effective exchange of information among local education agencies and the State. A current pilot project to provide access to the FCLA databases through FIRN for ten public libraries will help to determine the appropriateness of FIRN as the vehicle for telecommunications of the Florida library network.

The Commission believes that the State should undertake the long-range support, under approved plans, for networking and automation efforts among Florida's libraries. Public funding for public and private academic libraries has been provided primarily by the Department of State through federal Title III Library Services and Construction Act Grants which stipulate that monies be used by the Division of Library and Information Services to encourage networking among libraries that provide public access. The Commission notes, however, that it is appropriate for state tax dollars to be utilized as well to support library automation and subsequent networking for libraries providing public access. A state grant should be developed for this purpose, and the automation of the State Library should be supported.

Automation, despite representations by many to the contrary, does not reduce costs. The improved service made possible through automation actually represents an additional cost, albeit a cost that is small in relation to the increased service to and use by library patrons. Libraries were never intended to be lifeless and inaccessible warehouses of the past. They exist to serve. Automation enables them to more effectively provide service.

The ultimate goal of the State is to improve libraries and services to their users through the utilization of recent advances in technology. Such improvements should be the maximum possible given the constraints of limited human and financial resources. The Commission's recommendations are designed to achieve the State's goal by providing Florida libraries with a mix of systems that result in improved library automation services and more effective and efficient networking.

The specific recommendations of the Commission are as follows:

1. **The Florida Library Network Policy Board should be established in Florida Statute with the responsibility for providing broad policy supervision of Florida's libraries to ensure coordination of library networking and automation in the State. A major goal of the board should be to ensure compatibility among network linkages and to ensure that national bibliographic standards are met.**

   a. **The policy board should develop a master plan to guide library networking and automation for the State of Florida, approve plans for networking and automation submitted by individual or multi-type libraries, and review budget requests pertaining to networking and automation.**

   b. **The policy board should consist of eleven members appointed for staggered four-year terms by the Governor, approved by the Cabinet, and confirmed by the Senate. The members of the policy board should include five members of the general public, and a library director from each of six major types of libraries in the State:**

      - **state university libraries**
      - **community college libraries**
      - **private academic libraries**
      - **school libraries (K-12)**
      - **public libraries**
      - **special libraries**

   c. **The state librarian should serve as executive director of the Florida Library Network Policy Board and shall be responsible for the appointment of all staff to the board.**

2. The 33-member Florida Library Network Council should continue to be appointed by the Secretary of State and serve in an advisory capacity to the Florida Library Network Policy Board.

3. The primary mission and scope of the FCLA should be to automate state university libraries under the Type I governance structure now in place, and to facilitate networking linkages from state university libraries to other types of libraries through the State's designated telecommunications provider. As the State Board of Community Colleges develops a plan for the automation of community college libraries as called for in Recommendation 6, the libraries of Edison and Santa Fe Community Colleges should also be considered in that plan. The State Board of Community Colleges and the FCLA should jointly recommend whether community colleges which are receiving services from the FCLA should continue to do so, or become part of another organization to accommodate the operational plan for community colleges.

4. Commencing with the 1988 Legislature, proviso language should be altered to differentiate between "automated" and "access" services to be provided by the FCLA. This delineation should separate the internal automation services provided by the FCLA to state universities and selected community colleges on the one hand, from the networking through access services provided to additional users on the other.

5. To communicate more clearly the intent of the FCLA's primary mission and scope, the name "Florida Center for Library Automation" should be changed to the "State University Center for Library Automation" (SUCLA).

6. The 1988 Legislature should provide the State Board of Community Colleges with resources to develop a plan for library automation for the community college system, including Santa Fe and Edison Community Colleges:

   a. The plan should recognize the FCLA's probable inability to expand to include all community colleges and consider alternative approaches to library automation, such as centralized automated services for community colleges and the identification of those colleges which could benefit from a decentralized approach to library automation. The plan should provide the estimated cost to automate each community college. The plan should also contain recommendations as to the total number of community colleges which should be included in the FCLA. Priority for inclusion in the FCLA should be given to libraries that are shared jointly with state universities.

   b. The community college library automation plan should be submitted to the 1989 Legislature and include a provision for grants from the State Board of Community Colleges to

individual community colleges to facilitate internal library automation.

c. Funding for the 1988-89 proposed pilot project with the FCLA should be limited to three additional community colleges that share libraries with state universities, are members of OCLC/SOLINET, and have their records currently in machine-readable (MARC) format. Further automation of community colleges by the FCLA, other than Santa Fe, Edison and those colleges identified for the pilot project, should not be funded until the community college plan is approved by the Florida Library Network Policy Board and the Legislature.

7. The State Board of Community Colleges should ensure that each community college which requests a state appropriation to convert its library records to machine-readable (MARC) format is an active member of OCLC/SOLINET or a suitable alternative as determined by the policy board. Continued funding should be contingent upon membership in OCLC/SOLINET or the approved alternative.

8. Prior to the completion of its initial task of automating the library subsystems of the nine state universities and two community college libraries, and before the addition of other community colleges as called for in the proposed pilot project, the FCLA should develop guidelines and conditions under which automated services could be extended to a limited number of additional libraries through contractual agreements. First priority for this expansion should be given to current or proposed joint-use facilities at which a community college library is shared by a state university.

9. Technical resources available through the Division of Library and Information Services should be the primary source for the provision of consulting and advisory services to Florida's libraries. In the event that technical expertise for a centralized automated system is unavailable at the Division and such expertise is available at the FCLA, assistance should be secured through the Center. A payment structure which is based on full cost reimbursement for technical and advisory services should be established by the FCLA to meet such demands.

10. The FCLA should not be expected to provide services for the internal automation of public, private academic and special libraries not part of the State University System.

11. If technically feasible, FIRN should be used as the network for interlibrary communications and networking among all types of libraries in Florida. The FIRN pilot project with public libraries should be carefully monitored by the Florida Library Network Policy Board to determine whether FIRN's telecommunications linkages can be expanded to support

networking for all Florida libraries. In the event it is determined that FIRN can not support the electronic linkage of all libraries in the State that wish to participate in the Florida library network, another telecommunications system should be sought.

12. A state grant program should be created by the Legislature to provide funds, through the Florida library network and under the provisions of the State's library master plan, to support library networking and automation activities among Florida libraries providing public access.

13. To promote the coordinated development of the Florida library network system, the Legislature should fully support the automation needs of the State Library.

Conclusion

Florida stands in the forefront of library automation and networking activities nationwide. The Florida Center for Library Automation (FCLA) has been a major contributor to this status as it approaches its primary goal of automating the basic library functions of the State University System libraries. After an extensive investigation, the Commission concludes that unlimited expansion of the FCLA is neither feasible nor desirable, and that Florida and its libraries would be better served by a combination of alternate courses of action.

The Commission's report reflects the significant distinction between library automation and library networking activities. The diversity of public, academic and special libraries throughout the State calls for equally diverse internal automation systems designed to suit the needs of individual libraries or groups of libraries. Networking efforts, on the other hand, call for state-level coordination and cooperation among all types of libraries that wish to participate in the Florida library network. The Commission's recommendations are intended to help Florida achieve the dual goals of increased resource sharing among libraries and improved service for patrons.

I. INTRODUCTION

In proviso language accompanying the 1987 General Appropriations Act, the Postsecondary Education Planning Commission was directed to conduct an evaluation of the Florida Center for Library Automation. The evaluation was to include "an analysis of the following issues: program mission, governance, scope of the project, and short term and long term fiscal implications." Commission staff met initially with appropriate officials from the Florida Center for Library Automation (FCLA), the Board of Regents, the State Board of Community Colleges, the Department of State's Division of Library and Information Services, and legislative staff to clarify the direction of the study, and to identify those issues of major interest to the Legislature.

The Commission chairman assigned this study to the Planning Committee which included Rayma Page, Chairman, Timothy Brantley, Ralph Hogges and Robert Mautz. Subsequent to being given the assignment, Committee Chairman Page requested that Bob Mautz take the leadership role on this study.

The Florida Center for Library Automation (FCLA) was created in 1984 to provide a comprehensive, integrated system for the automation of the basic operational functions of state university libraries. The Center was approved by the 1984 Legislature in response to a budget request from the Board of Regents to automate the libraries of the nine state universities. Since 1984, the Legislature has appropriated approximately $3,000,000 annually to the State University System for this purpose. The FCLA operates as a Type I Center of the State University System hosted by the University of Florida. The Center is governed by an advisory board consisting of the library directors of the nine state universities, a Board of Regents representative, a State Board of Community Colleges representative, and the state librarian, who is the division director of the Department of State's Division of Library and Information Services.

In early meetings, the Commission recognized that Florida has already made great progress in planning and implementing a centralized automation system among libraries in the State University System. The FCLA has the largest academic, online bibliographic database in the Southeast consisting of over four million books and journals. The Commission also recognized that the 1984 proviso language which directed the creation of the FCLA, and guided its implementation each year since that time, was subject to interpretation. While the proviso called on the FCLA to develop a plan that would include services to other libraries in addition to those of the State University System, the legislative charge was not clear in regard to the nature and extent of such services, the timeline as to when these services should be provided, nor the priority for extending such services. Furthermore, the 1984 proviso failed to differentiate among discrete groups of libraries such as those at state universities, community colleges, private academic institutions, and public libraries. Rather, these four types of libraries and others were combined within the proviso, and the FCLA was directed to include each type in its plan:

> Funds in Specific Appropriation 507B for developing an automated system shall be expended based on a plan approved by the Division of

> Library Services of the Department of State. The plan shall include the State University System, private institutions, community colleges, public libraries and other library resources available within the State and by interstate cooperative agreements.

Following the 1984 Legislative session, the University of Florida submitted a plan to the Board of Regents for the creation of the Florida Center for Library Automation as a Type I Center of the State University System. The plan requested that the University of Florida serve as host to this Center. The goals set forth in the plan closely paralleled those contained in the legislative proviso and hence were also subject to varying interpretations.

In response to the 1987 legislative charge to evaluate the FCLA, the Commission investigated the extent to which the FCLA has accomplished what the Center regarded as its primary mandate, namely the automation of the major library functions of the State University System. In addition, the Commission analyzed the extent to which the FCLA has made or could make such automation services available to other libraries. From the onset, however, the Commission decided that it was necessary to include not only an evaluation of the FCLA and library automation in Florida, but also networking and resource sharing among libraries, which are the State's ultimate goals. The definitions utilized by the Commission to separate the different but complementary functions of automation and networking were those provided by King Research, a nationally recognized consulting firm in the field of library automation. They are.

> Library automation involves the application of computing and related technologies to library operations including circulation, cataloging, catalog production, online catalogs, acquisitions, and serials control. Library automation does not include automation of general office or accounting procedures.

> Library networking activities include formal cooperative arrangements among libraries to share materials, information and services. Participating libraries agree to serve one another on the same basis as each serves its own constituents, regardless of institutional affiliation or structure. Computers and telecommunications may be among the tools used to support library networking.

Since the establishment of the FCLA, library personnel, state agency representatives, legislative staff, and others have raised questions regarding the potential for the FCLA to include other libraries as called for in both the proviso and the FCLA operating plan submitted by the University of Florida. In addition, the technical feasibility of expanding the database with existing software, which the inclusion of other libraries would necessitate, currently remains unanswerable.

The assumption that the FCLA, operating as a Type I Center attached to the University of Florida and generally supervised by the Board of Regents, should be the all-inclusive organizational and governance structure to facilitate centralized library automation in Florida came under greater doubt as the study progressed. The Commission believed that alternative organizational

structures should be considered. For this reason, the Planning Committee prepared an initial report in December 1987 which described a number of alternatives for library automation and networking in the State of Florida. In the initial document prepared for public reaction, six possible options for library automation were presented. The options ranged from complete decentralization of library automation to strong centralization of automated services under various organizational and governance structures. The alternatives set forth were not intended to be exhaustive but to provide a range of possibilities designed to generate information and discussion.
A public hearing was held on December 18th at which time over 20 individuals provided testimony. Although the presenters primarily represented the state university and community college systems, information was also provided by the director of a regional library consortia, the director of a library at a private postsecondary institution and the state librarian. Several additional respondents sent written testimony.

Most individuals who testified at the December public hearing praised the FCLA for its accomplishments in automating the libraries of the State University System. There was much discussion as to what extent and to whom FCLA services should be provided and under what organizational structure. While representatives of the State University System and the state librarian favored limited and gradual expansion of the FCLA through contracts or the creation of separate centers similar to the FCLA for various groups of libraries, many community college representatives preferred that the FCLA be expanded as the single centralized automation system charged with responsibility for the automation of all Florida libraries. No consensus was reached at the December 18th public hearing, and there was little discussion as to an appropriate governance or organizational structure in the event the latter course was deemed more desirable.

A. Data Gathering Activities

Previous studies, surveys, informational materials and task force reports provided a substantial preliminary database for this study. In an effort to provide a broad framework to implement the mandate of the Legislature, in 1984 the state librarian initiated several contracts with King Research. The contracted activities undertaken included an evaluation of the initial plan for the FCLA submitted by the University of Florida, comprehensive surveys of current networking and automation in Florida libraries and the costs for such services, the development of a statewide plan for Florida's library network and automated library system development through 1990, and a five-year plan for access to the FCLA databases and related services. The extensive multi-year, four-phase study of library networking and automated library systems in Florida conducted by King Research served as a valuable resource to the Commission and is referenced throughout this report.

Additional research activities in certain areas were needed, however, to strengthen the study's database. These activities are outlined below and described in detail in Chapter III:

1. Survey of Library Directors Receiving FCLA Services - The 11 library directors at the nine state universities and two community colleges

currently receiving FCLA services were surveyed to assess their level of satisfaction with the FCLA.

2. Survey of Potential Users of FCLA Services - The library directors of selected public, community college and private academic libraries that do not currently have FCLA services were sent a survey designed to assess their interest in the use of the FCLA. Questions pertained to the existing automation capabilities of the libraries, as well as to the perceptions of library directors regarding the FCLA and its services.

3. Interviews with Students, Faculty, and Library Personnel Regarding the FCLA - A questionnaire was created to gain feedback on FCLA's online catalog from students and faculty who use this service. Reference librarians and catalog maintenance personnel were also interviewed about changes in their workload and job functions since the implementation of FCLA services.

4. Review of Library Automation Efforts in Other States - Library automation and networking efforts in 14 states with significant efforts were reviewed and analyzed.

5. Use of External Consultants - Consultants from North Carolina and Illinois, two states with extensive library automation and networking activities, were engaged by the Commission to make recommendations regarding future library automation and networking in Florida.

B. Consideration of Recommendations

The Planning Committee considered it essential to formulate and disseminate a draft of preliminary recommendations to facilitate public comment before forwarding final recommendations to the Commission. These preliminary recommendations and an accompanying brief rationale for each were disseminated to the public on January 21, 1988. This preliminary document was intended to include recommendations which may require legislative action.

The Planning Committee received public comment on the study and preliminary recommendations at a public hearing in Tallahassee on January 29, 1988. Following this hearing and the conclusion of the research activities, the Committee presented a final report to the Commission on February 25, 1988 for final action and transmittal to the Legislature and State Board of Education.

II. LIBRARY AUTOMATION AND NETWORKING IN FLORIDA AND THE FLORIDA CENTER FOR LIBRARY AUTOMATION (FCLA)

This chapter provides background information on library automation, library networking and the Florida Center for Library Automation (FCLA). It describes the basic operational functions of a library and the application of existing library automation technology to these functions. The status of current library automation activities throughout Florida is reviewed. The concept of library networking is discussed as are networking efforts at the state and national levels. In addition, this chapter describes the history and current operational status of the FCLA, as well as research pertinent to questions about the role of the FCLA in Florida's library automation and networking efforts. Finally, the costs and benefits of library automation are addressed.

A. The Automation of Basic Library Functions

Perhaps no other entity is affected by the information explosion more acutely than libraries. The rapid rise in information being generated in both print and non-print forms has made it imperative that library holdings be well organized and easily accessible to staff and patrons. Library automation has made it possible for libraries to adapt to these intensifying demands. With the advent of technological and electronic advances, the automation of basic library functions has become more feasible. In the coming decade, libraries of all sizes and types will increasingly turn to automation to improve the quality of the services they provide.

Library automation is the application of computer and related technology to daily library operations. In contrast to the early use of computers in libraries for the purpose of managing isolated operations, the well-automated library of the 1980's uses a multi-functional, integrated computerized system that shares a common database and manages the subsystems of the total library. Through the automation of basic functions, libraries seek to keep pace with demands for current information and improve services to patrons.

Any library wishing to automate must first convert the records describing its collections to a machine-readable cataloging (MARC) format. MARC is a standardized format that accommodates a wide variety of bibliographic descriptions. Using the standard MARC format, libraries convert their holdings from a print form to a machine-readable form capable of describing books, maps, serials, audio-visual materials, manuscripts, microforms, globes and film. The MARC format has become the accepted library standard for bibliographic information, and the cornerstone of library automation. Once records describing the library's holdings are in machine-readable form, libraries can automate their daily functions and access records instantaneously through computer terminals.

All libraries engage in similar operational functions. Libraries acquire needed materials (acquisitions), process and organize them into collections (cataloging), circulate them to users (circulation and interlibrary lending), and provide assistance to patrons with information needs (reference). The performance of these functions requires a large investment of labor. Thus,

the potential for automation to facilitate quality service for library patrons is great.

Acquisitions

The acquisition of library materials through purchases and gifts lends itself to automation. Automated acquisitions systems manage the ordering and receiving of materials (order control) and the invoicing and concomitant accounting required by the purchase of library materials (fund control). Order control provides capabilities for generating correspondence concerning an order and producing an acquisitions list for users. Automated fund control completes the acquisition cycle by allocating budgets, encumbering funds, making payment authorizations for invoices after shipments have been checked, and developing other accounting records.

The management of serials that arrive in successive parts, usually at regular intervals, is a portion of the acquisitions function that presents a considerable challenge from an automation perspective. Perhaps more than other aspects of the library, the frequency with which serials are issued (monthly, bimonthly, biweekly), as well as the constant emergence, cancellation and delay of serials, creates a monumental task of record keeping for libraries. Further, serials can change title and price, merge with other journals, or terminate. An automated system must be particularly responsive to manage the numerous library activities involved in serials control.

Cataloging

Automated catalog systems enable libraries to produce catalog cards, microfilm, or an online catalog. The automation of cataloging activities allows library professionals to maintain and update local catalogs as well as search national catalog databases from staff terminals.

A significant development in automated cataloging that benefits patrons is the online public access catalog. Online catalogs allow access to bibliographic information from public terminals located in the library. Users of these interactive catalogs query the computer by entering such information as an author's name, a subject heading, or a keyword from the title in order to locate desired library information. Studies have shown that implementation of an online catalog in a single library has usually increased library use by 20 to 50 percent.

Remote access to the online catalog is an important ancillary outgrowth of the online catalog. Remote access provides the ability to search the catalog from terminals at external locations or from dial-up terminals. Using the remote access function of an automated system, users may search a library's online catalog from an office or home. In the same way, library staff may search the bibliographic databases of other libraries to locate materials and books either not part of their own or presently unavailable from their own holdings.

Libraries constantly receive new materials that require the addition of bibliographic data. Similarly, the names, affiliations and subject terminology associated with materials frequently change. Authority control is that part of the catalog maintenance function which allows library staff to

maintain and modify bibliographic information. Automated authority control greatly assists in the maintenance of an accurate catalog through easy access to, and alteration of, existing records.

Circulation

Circulation is comprised of three fundamental elements: the user, the item to be checked out, and the period of time the item is to be borrowed from the library. An automated circulation system permits the library to charge, discharge, and renew an item instantaneously, as well as automatically send overdue notices. A request queue for patrons wishing materials already checked out by other patrons can also be maintained within an automated circulation system.

With the development of automated circulation, the status of patrons can be easily updated and searched to detect borrowers with excessive overdue items at checkout time. The system provides a file of inventory records which can be updated and searched to determine the availability and location of library materials. A transaction file of currently circulated items with circulation periods and due dates can also be generated as can reports of accumulated overdue fines and subfiles for management information.

Interlibrary lending and borrowing are a subset of the circulation function in which groups of libraries share resources through both formal and informal network agreements. Traditionally, the delivery of materials has been dependent on the postal service; however, more recently, telecommunications is being utilized to transmit requests over long distances and return the requested information. Interlibrary borrowing and lending rely on access to information on the holdings of each participating library.

Reference

The reference function is a library's major public service activity. Through assistance provided by reference personnel, patrons receive information on the location and organization of library resources. More recently, reference personnel have been called on to explain how to search for materials using the online public catalogs. Because the delivery of reference services relies primarily on human interaction, most libraries have not yet made much attempt to automate this function.

B. Library Automation in Florida and the Florida Center for Library Automation

Over 700 libraries are providing library services throughout the State of Florida. These libraries are of many types and sizes, including public (county, district and municipal); state university; community college; independent college and university; school district; law firm or legal society; medical firm or hospital; corporation; non-profit organization; museum and archives; as well as military and federal agency. Though several libraries in these various categories have automated certain basic library functions, by far the most extensive, comprehensive and coordinated library automation effort has taken place in the libraries of state universities. These institutions, under the leadership and direction of the Florida Center

for Library Automation (FCLA), are building databases of local holdings and implementing integrated automation systems for the basic library functions of circulation, acquisitions, serials control and cataloging.

The Florida Center for Library Automation (FCLA)

In 1981, the University of Florida began to modify a copy of the Northwestern On-line Totally Integrated System (NOTIS) to meet its library's needs. NOTIS, which was originally developed and marketed by Northwestern University to American libraries, was selected because it was designed for use with research libraries. The modified NOTIS system was renamed FOCUS (Florida On-line Computer User System). In 1982, the University of Florida began to automate its library services using FOCUS.

During 1983, the Board of Regents received several budget requests for in-house computer systems prepared separately by many state universities. After a review of these requests, the Board of Regents concluded that separate systems were too expensive. The Board further noted that since several of the proposed systems were incompatible, communication with other state university libraries to improve resource sharing would be impossible. In Fall 1983, a Library Task Force was established by the Board of Regents to develop a coordinated plan for library automation of the State University System. The recommendations of the task force were subsequently used by the Board of Regents in the development of their 1984 budget proposal to the Legislature. A pivotal recommendation of the task force that was incorporated into the Board of Regents proposal was to use the University of Florida's version of NOTIS (FOCUS) as the central software package for the state university libraries. Because NOTIS software was originally designed for use by a single university library, several additional modifications had to be made to extend the system beyond its original design limits.

In 1984 and 1985, the Legislature provided approximately $14,000,000 each year to the State University System and $3,000,000 to community colleges for books. In concert with this funding, the 1984 and 1985 Legislature appropriated lump sums of approximately $3,000,000 each year to the State University System to develop a library automation system. In proviso language of the General Appropriations Act, the 1984 Legislature created the Florida Center for Library Automation (FCLA):

> Funds in Specific Appropriation 507B for developing an automated system shall be expended based on a plan approved by the Division of Library Services of the Department of State. The plan shall include the State University System, private institutions, community colleges, public libraries and other library resources available within the State and by interstate cooperative agreements. Provided further that all university libraries will be supported by single software systems for principal library functions, that files will be available through FIRN for other education units of the state, and that required computer systems will be located with and operated by the State University System Regional Data Centers and be an integral part of the FIRN. Up to nine positions may be established associated with this appropriation; however, no funds shall be used

for salary adjustments for existing positions. Funds in this appropriation may be used for Research Libraries Group memberships.

The 1985 proviso dropped the inclusion of a single software system since NOTIS was adopted by the FCLA, and the 1985 Legislature appropriated an additional $3,000,000 to continue automation efforts. Though the proviso continued to require that the FCLA provide automation services to all libraries in Florida, the nature and extent of services, as well as the timeline for delivery and priority for extension of services, remained subject to interpretation.

The Legislature has continued to support academic libraries in state universities and community colleges. For example, in 1986, the Legislature appropriated $1,000,000 for community college library enhancement above the basic library allotment. In addition, $14,600,000 was provided for library materials for state university libraries. Since 1986, funding for continuation of the Florida Center for Library Automation (FCLA) has been integrated into the State University System Educational and General (E & G) budget with the caveat that funds appropriated for library automation could not be reallocated by the Board of Regents nor individual state universities.

Today the FCLA provides centralized automation services to the nine state universities, and Santa Fe and Edison Community Colleges. The two community colleges participating in FCLA services do so through cooperative arrangements with two state universities. Automation services have been provided to Santa Fe Community College based on an ongoing cooperative arrangement with the University of Florida established prior to the creation of the FCLA. Edison Community College receives FCLA services since the University of South Florida at Fort Myers shares the campus library facility with the community college.

Each of the eleven institutions receiving FCLA services utilizes the FCLA's Library User Information System (LUIS). LUIS is the online public access catalog that has supplemented, and in some cases replaced, manual card catalogs in these libraries. LUIS allows library patrons instantaneous access to the library holdings of the eleven institutions using simple author, title or subject information.

FCLA participants use the Online Computer Library Center (OCLC)/Southeastern Library Network (SOLINET) for obtaining MARC records and interlibrary loans. The OCLC is a nonprofit organization that makes available online services and offline products to libraries and other educational organizations. SOLINET is a regional network that provides users with OCLC support services. Since all nine universities are members of OCLC/SOLINET, it has not been necessary for the FCLA to develop an interlibrary loan component. Additional information on the OCLC/SOLINET network is included later in this chapter.

Organizational Elements of the FCLA

The FCLA was established and continues to operate as a State University System Type I Center hosted by the University of Florida. Type I Centers function within the State University System budget, have responsibility to two or more state universities, are administratively attached to a host institution, and are guided by an advisory board. The FCLA has an advisory board consisting of the directors of the general library systems at each of the nine state

universities and one representative each from the Board of Regents and the Department of State's Division of Library and Information Services. Because the FCLA also provides services to two community colleges, the Chancellor and the Executive Director of the State Board of Community Colleges agreed to the addition of a State Board of Community Colleges representative in order to facilitate communication.

The FCLA has established two important advisory committees that make recommendations to the FCLA staff, management, and the advisory board concerning the planning and implementation of automated services. The committees are comprised of state university library specialists in appropriate areas. The Technical Services Committee provides advice on the technical aspects of library systems related to acquisitions and cataloging. Projects related to the provision of services to the public, such as circulation and catalog assistance, are handled by the Public Service Committee.

The Northeast Regional Data Center (NERDC), located at the University of Florida, serves as the host computer center for the FCLA. Through a written agreement, NERDC operates the online portion of the system, provides assistance with telecommunications planning and the system's capability, and provides diagnostic troubleshooting for the online services of the FCLA. NERDC, through the FCLA, levies a transaction charge for each search. The FCLA pays for computer services based on the number of executed transactions and the online time utilized. As user demand for access to the state university catalogs increases, the required computer time steadily rises and costs increase. During 1987-88, approximately $2 million of the $3 million appropriated to the FCLA will be used to pay for NERDC services.

Research Related to the FCLA

Following the call by the 1984 Legislature for a plan to create the FCLA, the Department of State's Division of Library and Information Services employed King Research to evaluate a proposal submitted by the University of Florida to the Board of Regents for the establishment of the Florida Center for Library Automation. King Research recommended approval of the proposal for the establishment of the FCLA. In addition, King Research was engaged by the Division of Library and Information Services to conduct a four-phase study of Florida library systems. The study consisted of (1) a survey of current networking and automation by Florida libraries and related issues, (2) an evaluation of the survey findings, (3) the development of a statewide plan for library networking and automation through 1990, and (4) the development of a five-year plan for provision of services by FCLA to Florida libraries not part of the State University System.

In June 1986, King Research submitted Phase IV of its report entitled A Five-Year Plan for Provision of Services by FCLA to Florida Libraries to the Department of State's Division of Library and Information Services. The purpose of the report was to determine how the FCLA could participate in statewide library networking, and to develop a five-year plan for provision of FCLA services to Florida libraries other than those in the State University System. In their earlier Phase III report, King Research had developed a plan for a "Florida library network" to be established within the Division of

Library and Information Services of the Department of State. The Phase IV study described how the FCLA could evolve to support some of the activities and services of the Florida library network, with the caveat that "any services which FCLA may supply to other Florida libraries will require additional staffing and allocations of space." King Research recommended that the FCLA offer to Florida libraries wider access to the FCLA databases, additional databases loaded into the system, a Florida union list of serials (a compilation of serials holdings), training related to FCLA services, and consultation and advisory services to a limited extent.

In 1985, the Task Force on Learning Resources of Florida's Community College System, in cooperation with the Florida Association of Community Colleges, released the results of a survey on networking and automation in community colleges. The survey found that fewer than one-third of Florida's community colleges have computerized records in machine-readable form and that the community colleges were not ready to participate in, or benefit from, a centralized automation effort. The major recommendations of the Task Force were that colleges should complete retrospective conversion of all records to machine-readable cataloging (MARC) within two years, and coordinate automation and networking efforts with the Division of Library and Information Services and the FCLA.

In July 1987, the State Board of Community Colleges surveyed all community colleges to determine interest in and ability to convert, in whole or in part, to the FCLA system. Responses were sought with the caveats that several years of investment would be required by the community colleges, the FCLA is still evolving as technology changes, and the exact operational costs for library automation are unknown at this time due to limited experience with library automation in community colleges. Though each of the 28 community colleges indicated interest in "phasing-in" to the FCLA at some point, 79 percent noted that at least one of their library functions had already been automated using services other than those offered through the FCLA.

Current Operational Status of the FCLA

According to external consultants engaged by the Commission, the FCLA has accomplished more in three years than would be normally expected in implementing such a complex system in the state university libraries. To date, the FCLA has loaded over 95 percent of the State University System card catalogs including collections in law, health, agriculture, and business. As a result of this activity, records describing over four million books and journals have been entered into the FCLA databases, and Florida now possesses the largest academic, online database in the Southeast. According to the Director of the FCLA, when large American research libraries examine NOTIS software for possible consideration and usage, the Florida Center for Library Automation is cited as proof of the system's ability to handle the automation needs of large libraries.

The FCLA is in its fourth year of a five-year plan to automate the state university libraries. In addition to the online catalog, the FCLA has activated a number of subsystems: authority control, catalog maintenance, remote access, acquisitions, serials control and circulation. Each of the state university libraries is in varying degrees of implementation of these

functions. Though online catalogs are operational at all sites, not all libraries have implemented the acquisitions, circulation or serials control functions. According to information provided by the FCLA, catalog maintenance, the online public catalog, remote catalog access, circulation, acquisitions, and serials control will be operational at all state university libraries by 1989. Table 1 illustrates the status of FCLA operations since 1984.

TABLE 1

FLORIDA CENTER FOR LIBRARY AUTOMATION
OPERATIONAL STATUS
FALL 1984 - FALL 1987

	Fall 1984	Fall 1987
Records loaded		
Bibliographic	500,000	4,100,000
Authority	0	2,500,000
Item	0	2,240,000
Order	50,000	150,000
Online transactions per month	600,000	7,500,000
Terminals installed	65	900
Functions operational		
Online catalog	University of Florida	All state universities, Santa Fe Community College, Edison Community College
Catalog maintenance	University of Florida	All state universities, Santa Fe Community College, Edison Community College
Acquisitions	University of Florida	University of Florida, University of South Florida, Florida International Univ.
Circulation	None	University of Florida University of South Florida, University of North Florida, Santa Fe Community College
Serials control	University of Florida	University of Florida University of South Florida

SOURCE: Florida Library Center for Library Automation, 1987.

C. Library Networking in Florida and Nationwide

Libraries of all types and sizes seek to strengthen library services by participating in networks. Library networks may have various configurations. A network node is the key component of a computer-based network and defined as the location from which a computer provides services to one or more libraries connected by means of telecommunications lines. A network may have a single central node to which all network participants are attached or multiple nodes based on a library's needs and resources. Thus, a node may be a minicomputer at a public library performing basic library automation functions or a large mainframe performing services for many libraries.

Libraries establish networks to improve resource sharing and to provide better service to patrons. Online computerized networks link member libraries and provide information on holdings that facilitates interlibrary lending and borrowing. Library automation provides the tool by which networks can be used to share resources, services and information. Thus, library automation and networking both support the ultimate goal of providing better service to patrons.

State Networks

Many Florida libraries participate in library networks. Library networking arrangements in Florida typically consist of formal agreements and many rely on computers and telecommunications to share resources among libraries. Libraries participating in a network derive such benefits as greater access to a broader range of holdings, shared costs and volume discounts, increased ability to keep pace with the needs of patrons through interlibrary borrowing and lending, and the opportunity to utilize automation functions.

All Florida libraries (public, private, academic, and special) are considered by the Department of State's Division of Library and Information Services to be part of Florida's developing library network. Section 257.04 (2), Florida Statutes, outlines the role of the division in promoting services among Florida libraries:

> The division may, upon request, give aid and assistance, financial, advisory, or otherwise, to all school, state institutional, academic, free, and public libraries, and to all communities in the state which may propose to establish libraries, as to the best means of establishing and administering libraries, selecting and cataloging books, and other facets of library management.

In addition, the Division of Library and Information Services is charged in statute with the responsibility for "performing such other services and engaging in any other activity appropriate in the development of library services to the state government, the libraries, the library profession and the citizens of the State" (Section 257.04 (7), Florida Statutes). Based on this statute, responsibility for facilitating networking activities among all public, academic, special, and public school libraries throughout the State is assigned to the Division of Library and Information Services. In executing this responsibility, the state librarian has allocated funds and promoted activities to assist libraries in both networking and automation efforts.

In 1986, King Research recommended that a formal Florida library network be established within the Division of Library and Information Services of the Department of State. The recommendations specified that the Division act as the administrative host for the network, with primary responsibility for the facilitation and coordination of networking activities, provision of advice and consultation to support such activities, and coordination of needed education and training programs for all levels of library personnel.

Following the results of the King Research Phase III study, the Department of State's Division of Library and Information Services began to implement the recommendations contained therein regarding networking and coordination in Florida's library system. In 1986, the Director of the Division of Library and Information Services established the Florida Library Network Council and the Florida Library Network Policy Board. Charged with the primary responsibility for supporting and fostering cooperative efforts among all Florida libraries, the council and the policy board were created to serve as communication linkages among all libraries and to coordinate statewide library networking efforts. The Florida Library Network Council is comprised of 33 members from all types of libraries: selected library associations, state university libraries, government agencies, library education programs, public libraries, school library media programs, private academic libraries, consortia, community college learning resource centers, and special libraries. The Florida Library Network Policy Board, composed of 11 members elected from the council membership, was created to oversee policy issues confronting Florida library systems.

The King Research Phase IV report suggested how FCLA services could evolve to eventually support some of the activities of the Florida library network. In addition, the report recommended that the policymaking component of the network, the Florida Library Network Policy Board, ask the FCLA to investigate the potential for providing network support services to Florida libraries. Further, King Research advised that library networking activities in Florida utilize available and appropriate levels of technology without excluding any library from participating in network services. In this way, as technological developments become available at a reasonable cost, Florida can develop a network that provides services in different forms to members participating at different levels.

A review of cooperative arrangements between various Florida libraries reveals a number of successful library networks already in existence. Among the networks operational in Florida are the Southeast Florida Library Information Network and the Tampa Bay Library Consortium (regional consortia of multiple types of libraries); multi-library institutions such as an institution with a main library and special libraries (law, medicine); and consortia of libraries of the same type, such as a group of medical libraries or a group of libraries sharing a system, as in the case of the state university libraries within the FCLA.

The Southeast Florida Information Network (SEFLIN), an example of a multi-type cooperative library consortia, was established in 1984 to serve individual libraries of all types in Southeast Florida. These libraries remain autonomous yet share resources with other network members. Member institutions include community colleges, public and private universities, and

public library systems. SEFLIN's purpose is to improve library services by providing timely information and document delivery, as well as to facilitate cost-effective sharing of resources. SEFLIN provides a number of services for its members: a reference and interlibrary loan mechanism, cooperative and shared collection development, a union list of serials, support for new technologies and continuing education for librarians.

In summary, King Research identified the primary means for networking available to Florida libraries. These include:

- Computer Output Microfiche Catalog (COMCAT), the microfiche union catalog containing brief bibliographic records and holding information for 24 of the largest libraries in the State, including the State Library of Florida;
- The Florida Library Information Network (FLIN) which provides interlibrary loan service or referral to more than 500 libraries in the State;
- The FCLA Northwestern Online Total Information System (NOTIS) which provides automated library systems support to the nine State University System libraries as well as two community colleges;
- The Florida Information Resource Network (FIRN) telecommunications system which electronically links educational agencies and is currently being expanded;
- Other statewide, regional and local networks and programs for resource sharing;
- Various interstate networks and programs for resource sharing, such as OCLC/SOLINET, Research Library Information Network (RLIN); and
- Existing individual automated systems from sources other than FCLA.

Florida Information Resource Network (FIRN)

The Florida Information Resource Network (FIRN) is an educational communications network electronically linking all levels of public education -- school districts, community colleges and state universities. Perhaps the most advanced educational communications network in the nation, it exists to:

- provide equal access to computing resources for all public educational entities in the State.
- reduce the data burden on faculty and administrators.
- rapidly and effectively exchange information within the public educational system.

FIRN allows the Department of Education and state coordinating and governing boards to communicate information instantly to all school districts, colleges and universities. FIRN provides students and faculty on one campus access to

unique computing capabilities on other campuses, and permits administrators in the most remote locations to use the computer resources of more sophisticated institutions.

All educational institutions in Florida are now linked to FIRN, and the past two years have been devoted to an extensive software development effort. A basic application of FIRN will be access to the FCLA's online catalog of bibliographic information. Department of Education plans call for using FIRN to offer other academic libraries access to the catalogs of each of the nine state universities and two community colleges participating in the FCLA.

The original nucleus of FIRN was the state university system network, which links five regional data centers. The network allows efficient movement of data from the state universities to the Board of Regents, and permits researchers at one university to utilize computer software and databases housed at another. At present, FIRN has expanded to the point that telecommunications equipment located around the State is being used to connect all 67 school districts, 28 community colleges and nine state universities.

In late 1987, the FIRN Coordinating Council approved a pilot project with the Division of Library and Information Services to provide ten public libraries with access to the databases of the FCLA. The project seeks to determine the load on the FIRN telecommunications lines for the selected libraries in order to help establish the criteria for access by all public libraries. FIRN's capability to support the statewide library network is unknown at this time and for this reason, the pilot project is being closely monitored.

National and Multistate Networks

A significant initiative in library networking was the development in the 1960s of the standard machine-readable cataloging (MARC) format for bibliographic cataloging. With the advent of this MARC standard, a number of networks offering MARC-formatted records emerged. In 1967, the Ohio College Library Center (OCLC), a not-for-profit cooperative system, was established to serve as a resource for cataloging and the distribution of other information. In the ensuing years, many more libraries joined the OCLC for the purpose of shared cataloging, bibliographic searching, interlibrary loans, and acquisitions services. By 1981, the OCLC's name was changed to the Online Computer Library Center to reflect the fact that OCLC had become a national and international multi-type library network.

OCLC has changed library operations dramatically as well as paved the way for local library automation. Over 6,000 members have joined the cooperative; its nationwide database has in excess of 16 million records accessible through over eight thousand terminals. Though originally intended as a service center for Ohio college libraries, the OCLC had developed into a completely independent entity without state affiliation. Many Florida libraries have built their databases from archival tapes obtained from the OCLC.

Networks of all types and configurations exist among libraries to facilitate communication and achieve better resource sharing of bibliographic information and collections. The Southeastern Library Network (SOLINET) is another example. SOLINET was established in 1973 to replicate in the Southeast the

services that were being offered by OCLC. When the development of a complete system proved impractical, SOLINET contracted for services with OCLC on behalf of its members. SOLINET offers its services in ten southeastern states. Through membership agreements, SOLINET also provides members support for MARC format tape handling, workshops on technology and automation issues, and consulting services. Libraries pay an annual membership fee and a surcharge on OCLC fees for accessing OCLC databases. All nine state universities, several community college and private academic libraries are members of SOLINET and use OCLC's service for obtaining MARC records and interlibrary lending.

In addition to OCLC, several large national databases are available for use by libraries in Florida. The Research Libraries Group (RLG) maintains national bibliographic databases and assists state university libraries with acquisitions, cataloging, and interlibrary borrowing. The Bibliographic Retrieval Services (BRS) and Lockheed Data Services provide large databases of journal article citations and abstracts. Libraries generally pay for these national database services on a per transaction basis.

D. Benefits and Costs of Library Automation

Over the last twenty years, the virtues of library automation have been extolled in the information technology literature. Proponents promise that automated services will enable libraries to (1) handle the large number of repetitive transactions associated with daily library functions, (2) assist with accounting, (3) respond to demands for current information, (4) reallocate resources to improve services and (5) combat the rising cost of labor. Another benefit attributed to automation and resource sharing is the acquisitions cost savings that result from increased specialization and sharing among libraries and less duplication of expensive collections and unique books.

While automated libraries have described these benefits, they also have noted a number of disadvantages associated with automation. For example, automated systems are expensive to maintain because of hardware and telecommunications costs. Further, technical staff must be trained to operate the system and hired at a salary rate generally higher than those performing manual tasks. Automated libraries report that automation does not eliminate positions, but enables them to reallocate staff and to extend more services to users. The transition from manual to computerized systems involves an increased investment of human and fiscal resources since both systems must be maintained concurrently until the computerized system becomes operational.

Through terminals in the library, staff and patrons at fully automated libraries can access the union catalog of the library's holdings, determine the titles on order or the books checked out, and identify journal issues recently received, missing, or at the bindery. In addition to terminals in the library, users can dial in from their home or office and obtain the same information on the status and availability of the library's holdings. In concert with these benefits, automation enables libraries to generate management reports which would be otherwise impossible to compile because of the extensive staff time required for their development.

In general, automated libraries have not experienced reductions in overall operational costs. In fact, expenditures such as the purchase of hardware to establish and maintain the system, the recurring costs of maintaining the software, and the technical staff required for operation of the system have frequently increased the total operational costs for libraries. Thus, the enhanced services to users and the benefits to library staff and patrons made possible by automation are gained for the most part at a concomitant increase in cost.

III. COMMISSION RESEARCH ACTIVITIES

To facilitate the Commission's evaluation of the Florida Center for Library Automation, a number of research activities were undertaken to gain feedback on FCLA services from both recipients and potential recipients. In the course of this investigation, individuals in the following categories were surveyed: library directors currently using FCLA services, library administrators that may potentially use FCLA services, students and faculty who have used LUIS: The Online Catalog, reference librarians and catalog maintenance personnel. In addition, library automation and networking activities in other states were examined. The specific research activities included:

A. Survey of library directors receiving FCLA services
B. Survey of library directors not receiving FCLA services
C. Interviews with students, faculty, and library personnel regarding LUIS and the FCLA
D. Review of library automation efforts in other states
E. An analysis of the current system of library automation and networking in Florida conducted by an external consultant team

A. Survey of Library Directors Receiving FCLA Services

The survey of library directors who use FCLA services was designed to assess their level of satisfaction with these services. In addition, the survey was intended to provide library directors with the opportunity to share their perceptions of, and individual experiences with, library automation. A copy of the survey is contained in Appendix A. The survey was limited to the eleven Florida libraries currently using FCLA services. These include the libraries of the nine state universities and two community colleges (Edison and Santa Fe). Responses were received from all eleven institutions. The questionnaire focused on the following topics:

- Current operational status of automation efforts
- Satisfaction with automated services
- Benefits and disadvantages of library automation and networking
- Library automation costs
- Perceptions of the appropriateness of FCLA goals as established by the Legislature

Current operational status of automation efforts - While implementation of automated services remains unfinished, significant progress has been made towards the 1989 goal of complete automation in all nine state university libraries. According to the reports of the library directors surveyed, LUIS: the Online Catalog and automated catalog maintenance are in use at all state university libraries, and Santa Fe and Edison Community Colleges. Remote access to LUIS is available at all institutions except for Edison Community College. Circulation is automated at the University of South Florida, the University of Florida, and the University of North Florida. The University of South Florida, the University of Florida and Florida International University have automated acquisitions and the University of South Florida and the University of Florida have automated the serials control function. Table 2 outlines the status of FCLA operations and the expected

dates of implementation for those functions not yet operational as reported by the institutions surveyed.

TABLE 2

STATUS OF THE FCLA SERVICES REPORTED BY RESPONDENTS

FCLA Automated Services	Libraries Currently Operational	Libraries Currently Not Operational	Expected Implementation Date:
Catalog			
Maintenance	All State Universities Santa Fe Community College Edison Community College		
Online Public Catalog Library User Information System (LUIS)	All State Universities Santa Fe Community College Edison Community College		
Remote Access	Florida A & M University Florida State University Florida Atlantic University Florida International University University of Central Florida University of West Florida University of South Florida University of North Florida University of Florida Santa Fe Community College	Edison Community College	January 1988
Circulation	University of Florida University of South Florida University of North Florida	Florida A & M University University of Central Florida Florida State University Edison Community College Santa Fe Community College Florida Atlantic University University of West Florida Florida International University	May 1988 December 1988 July 1988 January 1988 January 1988 June 1988 December 1987 December 1987
Acquisitions	University of Florida University of South Florida Florida International University	Florida A & M University University of North Florida University of Central Florida Florida State University Edison Community College Florida Atlantic University Santa Fe Community College University of West Florida	July 1988 July 1988 November 1989 July 1988 July 1988 July 1988 Unknown July 1988
Serials Control	University of Florida University of South Florida	Florida A & M University University of North Florida University of Central Florida Florida State University Edison Community College Santa Fe Community College Florida Atlantic University University of West Florida Florida International University	July 1988 January 1988 November 1987 July 1988 July 1988 Unknown Unknown December 1987 1987-88

SOURCE: Reported by individual institutions, November 1987.

Satisfaction with automated services - Of the eleven libraries responding to the survey, only one institution reported dissatisfaction with LUIS. This dissatisfaction was based on the fact that major collections, which cannot be put in the library's card catalog but are held in the library, are "inaccessible to primary users and citizens of the State." Others reported being "satisfied" (1), "very satisfied" (6), and "completely satisfied" (3). Of the ten libraries that use the remote access function, most (7) were satisfied, though two were somewhat dissatisfied and one had no opinion about the services received. Similarly, most respondents (9) were satisfied with the automation of catalog maintenance; five of the nine described their libraries as "completely satisfied." Of the three libraries with automated circulation systems, two were "very satisfied" and one was "neutral" towards the circulation services provided by the FCLA.

Opinions of the acquisitions function, in use at only three institutions, also varied. One library reported being "very satisfied" with the FCLA service in support of acquisitions, one was "dissatisfied", and one reported insufficient experience with it to judge this function. The reported dissatisfaction was related to the lack of management and accounting information provided by the acquisitions system, since this information was said to be necessary to meet state requirements. Of the two libraries that have implemented serials control through the FCLA, one was "very satisfied" and the other was "neutral" about the service.

Benefits and disadvantages of library automation and networking - An overwhelming majority of respondents reported a range of benefits associated with automation and networking. Among these are: access to greater resources (11), ease of catalog maintenance (11), a more up-to-date catalog (10), a union catalog for university holdings (10), improved communications within the library (9), and improved service delivery to patrons (11).

When queried about disadvantages associated with automation, eight respondents identified various problems and concerns. Three found no disadvantages. Of the eight who cited disadvantages, four qualified their responses with such comments as "the advantages far outweigh the disadvantages" and "all automation efforts include compromises." Some specific disadvantages were noted, however. Several respondents stated that a centralized library system results in less control of their own library functions and more difficulty in getting services tailored to meet their particular needs. In addition, respondents reported queuing problems, as well as increased downtime in the competition for communications lines. Other respondents reported that the FCLA is understaffed and has been unable to provide more responsive service due to the amount of work involved in automating library functions.

Library automation costs - Of the eleven respondents, six indicated they had experienced minor savings in labor and costs, and five indicated that they had not. A number of libraries reported that they had saved labor costs for filing bibliographic cards used previously in manual card catalogs. For others, savings resulted primarily from the reduction of the backlog the library had accumulated prior to the use of FCLA services. Of those who had not seen savings in costs, two reported unchanged costs, one reported increased costs and two maintained that such cost variations could not be validly measured. Increased costs were attributed to the concurrent

maintenance of manual and automated systems and the rise in costs other than those related to the FCLA. Space savings was frequently identified as the least realized benefit of automation. This circumstance seems related to the fact that many libraries continue to maintain manual card catalogs during the transition to computers. Several commented that greater savings may be realized when the system is fully operational and retrospective conversion of all library holdings into machine-readable form is complete.

Summary - Overall, the nine state university and two community college libraries surveyed are satisfied with the automated services offered through the FCLA. Respondents reported a wide variety of benefits as a consequence of services provided through the Center. Disadvantages are less numerous, and revolve primarily around the loss of autonomy required by participation in a centralized automated system. Meeting the diverse needs of the state university libraries appears to be a significant challenge for the FCLA. Though a number of respondents noted that the Center appears to be "understaffed," causing some delays in the delivery of services, most library directors commended the FCLA's efforts and its staff and director.

Several modifications and improvements to FCLA services were recommended by the respondents: additional management reports, improvements to NOTIS software, and changing the direct link from the Northwest Regional Data Center to the Northeast Regional Data Center to reduce the number of potential points of failure in the telecommunications process. Most of the respondents who expressed dissatisfaction with the FCLA, however, noted that the advantages of the system outweigh the disadvantages.

B. Survey of Library Directors Not Receiving FCLA Services

The library directors of selected public, community college and private academic libraries that do not currently use FCLA services were sent a survey designed to assess their interest in the use of the FCLA. (See Appendix B for a copy of the survey.) Questions pertained to the automation capabilities of the libraries, as well as perceptions of library directors regarding the FCLA and its services. The survey was sent to fifteen public, nine community college and seven private academic libraries (See list in Appendix B). The final sample included five public, six community college, and four private academic libraries. Despite the low response rate, an analysis of the data received revealed some patterns in the following areas:

- Characteristics of the libraries surveyed
- Current extent of automation and network affiliations
- Interest in and readiness for FCLA services
- Comments on FCLA and possible participation in FCLA

Characteristics of the libraries surveyed - Of those surveyed, all the public libraries (5), two private academic libraries and one community college library were main libraries with branches in other locations. One private academic library and one community college library were single libraries and three community college libraries were a part of separate groups of libraries without a main library. The library collections ranged from a total of over 1.6 million items (Jacksonville Public Library) to approximately 45,700 items (Nova University). Seven of the 13 respondents have 90 percent or more of

their circulation materials in machine-readable cataloging (MARC) format, and only one of the 13 had no plans at this time to convert its collection to this format.

Current extent of automation and network affiliations - Most of the libraries surveyed have at least some library functions automated. Brevard Community College was supplied a LUIS terminal by the University of Central Florida to provide an online public access catalog. One private academic library, the University of Tampa, reported that it intends to install an integrated library system which will include an online public access catalog, among other automated functions. Two public libraries reported full automation of online public catalogs and catalog maintenance functions. Four of the 13 libraries reported that catalog maintenance at their libraries is fully automated; five have fully automated circulation functions, two have fully automated acquisitions functions and one has a fully automated serials control function. Network affiliations vary widely among the libraries that responded to the survey. Ten institutions are full members of OCLC/SOLINET, seven participate in the Tampa Bay Library Consortium and six participate in the Florida Library Information Network (FLIN). While community colleges and private academic institutions rely primarily on the services of OCLC/SOLINET, public libraries are involved with a greater variety of such networks. Overall, the libraries of community colleges and private institutions perceived greater benefits as a result of library automation and networking than did public libraries.

Interest in and readiness for FCLA services - The institutions surveyed were asked about their level of interest in automating through the FCLA. Public libraries were least interested in using FCLA services; when interest was expressed, it involved access to the online catalog and remote access functions. Most community college and private academic libraries were primarily interested in the online catalog and remote access functions as well. Interest was also expressed, however, especially by community colleges, in catalog maintenance, circulation, acquisitions and serials control functions.

Readiness to implement automated functions varied greatly among libraries; community colleges were slightly more prepared than other institutions to do so. The library automation priorities of different types of libraries were relatively similar. The majority of libraries most highly valued the establishment of an online Florida union catalog.

Comments about possible participation in the FCLA - A number of different concerns were raised in regard to possible participation in the FCLA. One public library director had questions about the compatibility of FCLA services with the holdings of public libraries, as well as concerns about costs. A desire for "easy access to the catalogs of the state university libraries and to the catalogs of other public libraries in the State" was expressed. Even in one public library where automated circulation and online catalog functions exist, there was an interest in "taking advantage of the latest technology to meet special needs." To this end, stronger regional links were recommended.

The comments of the community college library directors tended to be more specific in nature. Among the recommendations were statewide membership in OCLC/SOLINET for all community colleges; funding to complete community college

retrospective conversion projects; addition of the Florida State University materials housed at Gulf Coast Community College library and the GCCC holdings to the FCLA database as a joint FSU/GCCC college catalog; membership of Pensacola Junior College library in the FCLA, even if the cost of implementation must be shared; and participation of Valencia Community College in the FCLA. Overall, the comments of the community college library directors reflected a great interest in and positive regard for the FCLA.

Only two comments were provided by private academic library directors. Both were interested in obtaining access to information regarding the holdings of the state university libraries. One library director at a large private institution suggested that "FIRN links to FCLA for private university libraries should be secured."

Summary - The results of the survey indicate that community colleges and private institutions perceive greater potential benefits as a consequence of FCLA services than do public libraries. Remote access to the online catalog function of the FCLA is the only service of much interest to the public libraries that responded to the questionnaire. Community college libraries are more interested in a wider range of FCLA services than either public or private academic libraries. One variable affecting expressed interest in the FCLA was funding. Among community colleges in particular, interest in the FCLA was much greater under the condition that external funding would be available. All types of libraries described the establishment of an online Florida union list of serials as a top automation priority.

C. Interviews with Students, Faculty, and Library Personnel Regarding LUIS and the FCLA

A questionnaire was created to gain feedback on LUIS: The Online Catalog from students and faculty who use it (See Appendix C). The questionnaire was administered in the form of on-site and telephone interviews. Students who had used LUIS were asked on-site to participate, then interviewed using the questionnaire's standardized format. Faculty who had used LUIS were interviewed by telephone. Reference librarians and catalog maintenance personnel were interviewed on-site about changes in their work roles since the implementation of LUIS; each was asked a question relevant to their job responsibilities. Reference librarians were asked: "How has your job role in the library changed since the implementation of LUIS?" and catalog maintenance personnel were asked: "How has the catalog maintenance function been modified since using LUIS?"

The five state universities and one community college chosen for these interviews were: Florida State University, Florida A & M University, the University of Florida, Florida Atlantic University, Florida International University (North Miami Campus) and Santa Fe Community College.

Another interview form was developed for library administrators to examine their experiences with and perceptions of the FCLA. These forms were also utilized on-site at a limited number of institutions, including the University of Miami, the University of Tampa, the University of Florida and the Florida State University.

A total of 50 students, 10 faculty, 12 library personnel and 4 library administrators were interviewed. Because this was an informal study, traditional random sampling procedures were not utilized. The generalizability of the results, therefore, is somewhat limited. A greater measure of confidence in the reliability of the results was afforded, however, by the use of a single interviewer for students, faculty and library personnel.

Students - Of those undergraduate and graduate students interviewed, 78 percent had been using LUIS for 12 months or less. Most (60%) use LUIS from one to four times a month, though 20 percent reported usage of five to eight times a month, and 14 percent reported usage of more than nine times a month. Eighty percent of interviewed students indicated that LUIS has improved their use of the library. Of this number, 56 percent described LUIS as quick and efficient, 50 percent mentioned its ease of use and convenience, and 16 percent stated that LUIS gave them more information than the card catalog. Of the ten percent who felt that LUIS had not improved their use of the library, and the ten percent who described themselves as "not sure," 80 percent complained that LUIS failed to provide cross-referencing of subjects. According to these students, the lack of a cross-referencing function greatly limits the usefulness of the subject search capability of LUIS.

Nonetheless, the majority of those interviewed were satisfied with the LUIS system. Eighty-two percent described their overall level of satisfaction as "satisfied" or "very satisfied," 12 percent were "not sure" and six percent were "dissatisfied." Most students (84%) also found LUIS to be "user-friendly." Among the 16 percent who indicated that LUIS is not user friendly or who were "not sure," half (50%) reported difficulty in resetting terminals that "jam." Thirty-seven percent of disgruntled users complained of a lack of feedback from the machine when a specific entry was "not found," and 37 percent reported problems with the Library of Congress subject listing. Another 37 percent admitted that they found it difficult to utilize computers in general.

The majority of the students (84%) stated that their libraries had enough terminals to accommodate the needs of students and faculty; the same amount (84%) reported that the locations of these terminals are convenient. When asked whether LUIS was always operational, 70 percent responded "yes" and 30 percent responded "no." Fifty-three percent of the latter group found the system to be "down" less than 15 percent of the time, and 26 percent reported it down between 16 to 30 percent of the time. Twenty-eight percent of the users had trouble with an individual terminal at least once but less than five percent of the time, and 36 percent had never had trouble with an individual terminal.

The last item on the questionnaire asked for further comments about the LUIS system. (A list of responses to this open-ended question is also included in Appendix C.) Of the students interviewed, 32 percent spontaneously reported that they like the LUIS system, 16 percent advocated the addition of a cross-referencing function, and ten percent noted that more information on resetting terminals would be useful. Eight percent mentioned that LUIS could be improved through the inclusion of all library materials.

Faculty - Ten faculty members were interviewed by telephone using the same questionnaire as that used for students. Half of this group had been using the LUIS system for seven to 12 months, three respondents had used it for less than six months, and two had used it for more than two years. Half of the faculty interviewed used LUIS one to four times monthly, and one reported using it almost daily, both in research and instruction with students.

Six of the ten faculty interviewed indicated that LUIS had improved their use of the library. Six respondents described it as faster and more efficient, three as easier and more convenient, and two as providing more information than the use of the traditional card catalog. Among the four faculty who did not feel positive towards the LUIS system, two attributed their negativity to a generalized resistance to computers or the force of habit in using the card catalog. One respondent felt that the "help" options within the program were inadequate; another was dissatisfied with the program's ability to simply and efficiently compile a bibliography.

The overall level of satisfaction was distributed evenly among the categories of "not sure" (3), "satisfied" (3) and "very satisfied" (3). One faculty member at Florida Atlantic University was "very dissatisfied" with LUIS because "to get a complete printout of a bibliography is terrible." All ten faculty found LUIS to be "user friendly." As with the students interviewed, there was some uncertainty about the extent of library materials accessible through LUIS.

Most faculty interviewed (8) stated that the locations of the terminals in the library are convenient. Though three faculty indicated that the number of terminals is sufficient, two indicated that the number of terminals is inadequate, and five were not sure. Several mentioned that additional terminals, distributed throughout the library, would be helpful. Only two faculty -- both at the University of Florida -- had used LUIS from a remote location. In both cases, the terminals are situated in their respective departments and are considered a great advantage, particularly when the terminal is not shared for administrative tasks. The majority of the faculty (7) reported that LUIS is always operational. Terminal malfunctioning, however, seems to be more common. Three faculty reported having difficulty with individual terminals from one to five percent of the time, two reported difficulty from 16 to 20 percent of the time, and one reported difficulty more than 20 percent of the time. Three faculty reported never having had difficulty with an individual terminal.

In the "further comments" section of the questionnaire, faculty members offered a number of specific suggestions for improvement of the LUIS system. These comments are listed in Appendix C. Two faculty mentioned having difficulty compiling bibliographic information easily, and two noted their resistance to the innovation.

Catalog Maintenance Personnel - All six catalog maintenance personnel who were interviewed agreed that catalog maintenance has improved since the implementation of LUIS. Most individuals referred to the power and efficiency of LUIS in correcting, providing and updating catalog information. Because corrections and additions can be made with a minimum of time and effort, the product received by the public is greatly improved. At one institution, major

reorganization of library materials was made possible within a week through the use of the LUIS cataloging function while the same operation performed manually would reportedly have taken years. Other improvements attributed to LUIS include improved overall work flow, greater and more affordable access for community colleges, and improved quality of service. One cataloger mentioned that the FCLA had been very helpful in implementing the catalog system. Two of the six catalog maintenance personnel, however, complained of the time involved in the tape loading process. The only other concern expressed by catalog personnel was that the LUIS index could be "more relevant to actual needs."

Reference Librarians - All six reference librarians surveyed agreed that their job roles had changed since the implementation of LUIS. Each librarian also noted that the importance of "bibliographic instruction" for users -- in the use of the Library of Congress subject listings and the development of a subject search strategy -- has increased. The majority of the reference librarians also mentioned that the frequency of technical questions about LUIS is high. One respondent complained that "too much time is spent on purely mechanical problems." Three reference librarians were pleased with the greater access, convenience and speed afforded by the LUIS system. A number of suggestions for improvement were made. These included hiring a technically-oriented student assistant to routinely check for jammed terminals and printers; "banking" the machines in closer proximity in a sound-proof area; developing a cross-referencing function; ensuring that librarians are able to communicate the concept of the subject search to students; and including Florida documents in LUIS on a regular basis.

Library Administrators - Library administrators at four institutions were interviewed during the course of the study: the University of Miami, the University of Tampa, the University of Florida, and Florida State University. Highlights of the interviews are included in this section.

The University of Miami, with the second largest research library in the State, was initially asked to be included in the FCLA. The institution declined to participate for several reasons. First, the University of Miami considered NOTIS software to be more expensive and less user-friendly than other available systems. Second, the use of the FCLA for automation services would have meant increased costs in the form of telecommunications charges to the Northeast Regional Data Center (NERDC) in Gainesville. Third, as an independent institution, the University of Miami believed it would have been given a lower priority for automated services than state universities. Thus, participation in the FCLA was seen as unnecessary so long as the computers and software of the FCLA and the University of Miami were compatible and could be linked in both directions. In the view of the University of Miami's library director, who has participated extensively in state-level library committees, access to the FCLA database should be provided to private academic and public libraries. Through contracts, these libraries should also be able to receive the FCLA's centralized automated services if they so desire. Though the University of Miami is not a member of the FCLA, it highly values dial-in access to the FCLA for networking purposes. Likewise, the University of Miami believes it should provide the State University System with access to its holdings.

At Florida State University, library administrators shared that the circulation function is currently being automated using the CLSI system rather than the FCLA. The FCLA will not provide automated circulation services for Florida State University until July 1988 or after. FSU's online catalog function as provided by the FCLA is almost complete. However, FSU officials stated that several years are still needed for the institution to completely automate the acquisitions, circulation and serials control functions. Less than one percent of the users at Florida State University access LUIS from remote terminals. Administrators noted that a major attraction of LUIS is the catalog maintenance function and the associated time-savings for library personnel.

The University of Florida was the initial university to implement NOTIS software, which the library modified to address its special needs and renamed FOCUS. Since the mandate of the Board of Regents to make computer and software systems compatible in all state university libraries, the University of Florida has used the modified NOTIS to automate all its library functions through the FCLA. While on-site at the University of Florida, library administrators identified more and better information for staff and patrons as the primary advantage of centralized automation through the FCLA. The inability to tailor systems to meet their own needs is perceived as the major disadvantage associated with centralization.

Library administrators at the University of Florida stated that the state universities should have priority for FCLA automation services over private academic, community college and public libraries. Each of these types of libraries, it was recommended, should have their own automation centers. Administrators also noted that Florida's system for library automation is "on the cutting edge" of automation efforts nationally. Because NOTIS software is designed specifically for large research libraries, the services provided by the FCLA are seen as entirely consistent with the mission of the University of Florida.

The University of Tampa is a private institution with an interest in the use of the FCLA for library networking services. According to the library director at the University of Tampa, the biggest advantage of participation in the FCLA is access to the databases of the state university libraries. Currently, 98 percent of the records of the University of Tampa library are in machine-readable form. Circulation is managed by an in-house automated system, and catalog and acquisitions functions are coordinated using OCLC subsystems. Though a full member of both the Tampa Bay Library Consortium and OCLC/SOLINET, the University of Tampa as a private institution is not currently permitted to link with the Florida Information Resource Network (FIRN). Library administrators cited this prohibition as a potential barrier to providing access for independent institutions to the databases of the FCLA.

Summary - The majority of students, faculty and library personnel see the implementation of LUIS: The Online Catalog as a useful innovation. Among students and faculty, the ease and speed with which information is provided aids in both research and in teaching. For catalog maintenance personnel, LUIS is both a time-saving and cost-saving means by which to correct and update catalog information. Reference librarians enjoy the convenience and

accessibility of information available through LUIS, and find themselves increasingly called upon to supply bibliographic instruction to LUIS users.

A number of improvements to LUIS were proposed in the course of the interviews. The most frequent requests by students were: the addition of a cross-referencing function, more elaborate on-screen feedback, clear instructions for resetting "jammed" terminals, and the inclusion of all library materials. Faculty suggestions were generally more idiosyncratic. Several faculty sought expanded search capabilities to other databases, easier access to terminals located in their own academic departments, and simpler procedures for compiling bibliographies. Catalog maintenance personnel mentioned the need for improvements both in the LUIS index and in the length of time involved in receiving and loading tapes from OCLC/SOLINET. Finally, reference librarians noted that increasing demands for bibliographic instruction from LUIS users must compete with time spent on technical tasks such as those related to equipment malfunctions.

D. Review of Library Automation Efforts in Other States

In August 1987, Commission staff disseminated a questionnaire to all state higher education executive officers asking for information on statewide efforts planned or currently underway to automate state university, community college, public, special or independent institution libraries. Respondents were also requested to describe the objectives and accomplishments of such automation projects and the types of networking services available within their states.

Information was received from 14 states. A number of states with extensive state library automation and networking efforts responded. A review of the responses reveals variation in the extent to which libraries are automated, though all states project eventual conversion to automated systems for most library functions. At the same time that many libraries are pursuing their automation goals independently, in most of the states surveyed, organizational structures have been created to support the development of statewide resource sharing networks. In the section which follows, highlights of the efforts in key states are included. A complete summary of library automation and networking in each of the 14 states is presented in Appendix D.

Illinois - Illinois' Library Computer System (LCS) is an online circulation and access system that, in 1980, expanded statewide to facilitate resource sharing and interlibrary cooperation among participating institutions. The LCS serves 27 public and private academic libraries in Illinois, and provides access to its database for 18 regional library systems in the State through the Illinois Library and Information Network (ILLINET). LCS is administered by the University of Illinois' Urbana-Champaign campus (UIUC) and is funded by the Legislature, the University of Illinois and payments by member libraries for equipment, maintenance and telephone lines. Since 1984, the UIUC's online catalog has been made available at each of the LCS libraries, allowing users to search catalog records in the UIUC's catalog and return to LCS to facilitate interlibrary searching and circulation capabilities. Because the state library has provided funds for the development of a state online catalog, there will eventually be linkages to public, special, school, regional and academic libraries in Illinois.

North Carolina - Several libraries of various University of North Carolina institutions had independently automated some library functions when a comprehensive state plan was created by the President's Office and the University of North Carolina library council. The plan called for an integrated automated system at each of the 16 institutions of the university system, as well as a means of linking these and other North Carolina libraries with regional and national networks. All university libraries are members of SOLINET, through which prospective and retrospective conversion of records to machine-readable form takes place. The online catalogs of the Triangle Research Libraries Network (TRLN), including Duke University, the University of North Carolina at Chapel Hill and North Carolina State University, are being linked together so users on all campuses can access them as if they were a single database. Further, a computerized network known as LINCNET, and run by the University of North Carolina Computing Service, has been modified to provide the necessary linkages to each campus. The use of this existing utility has meant dramatic savings in commercial telecommunication costs.

Ohio - Eight of the 13 university libraries in Ohio have automated local systems for circulation control, which in some cases serve as a supplement to or substitute for the card catalog. Several institutions offer no-charge dial access as well. Yet because the systems are largely incompatible, statewide intercommunication between locally-automated systems is not currently possible. In Ohio, the majority of the 135 academic and 250 public libraries obtain the library services and products of the Online Computer Library Center (OCLC) through a state-level network called OHIONET. A 1986 study conducted by the Ohio Board of Regents revealed a great variety of existing regional, statewide, interstate and national collaborative networks in use to facilitate resource-sharing in Ohio. The study concluded that a statewide electronic catalog system should be implemented. Such a catalog would complement local systems and be made available to private college, large public and other libraries, as well as publicly-assisted academic institutions. Further, the Board of Regents recommended the development and implementation of a statewide distribution system for library materials, as well as retrospective conversion of existing catalog records to machine-readable form for inclusion in the statewide online system.

Wisconsin - The University of Wisconsin chose the OCLC LS 2000 System to provide integrated automation of the circulation, online catalog and basic library functions for its eleven four-year institutions. Microcomputer-based serials and acquisitions control programs interface with the OCLC LS 2000 System to provide these two functions. Because of the customized nature of the software used, each system stands alone; however, communication between libraries is possible via dial-in access. Before 1990, the University of Wisconsin plans to address the library automation needs of Wisconsin's thirteen two-year institutions as well. The large collections of the two doctoral institutions in the University of Wisconsin system utilize the locally-developed, Network Library System (NLS) to provide an online catalog. With the use of NOTIS software, acquisitions, serials control and circulation functions will be added shortly. The system supports standard communication capabilities to allow users to access other computer systems via library terminals, interface with various campus networks, and work with administrative systems such as personnel and the registrar. Dial-in access is

also available for libraries or individuals on a local, statewide or nationwide basis.

E. Consultants' Report

Consultants from North Carolina and Illinois, two states with extensive library networks, were engaged by the Commission to analyze Florida's current system of library automation, and make recommendations regarding future direction and possible expansion to other sectors. The consultants noted the ambiguity in the proviso statement attached to the legislative allocation for the FCLA. Identifying that the primary thrust of the FCLA has been to automate the state university libraries, the consultants stated that it would be inappropriate for the FCLA to make a major expansion at this stage in its development. The consultants did suggest, however, that any pending requests to add community colleges be addressed this year. They also maintained that the FCLA, given its current staffing and stage of implementation, cannot reasonably be expected to concurrently implement centralized automated systems and act as technical advisors for libraries planning automation.

The consultants believed that the development of a single, monolithic automated system is not an appropriate solution for Florida. Based on the excessive costs associated with such a centralized system, they advised instead that libraries acquire different but compatible systems and link using a telecommunications network such as FIRN. Such a "distributed" system would provide access to catalogs throughout Florida libraries while allowing for various "turnkey" systems to automate local library functions. The consultants cited a number of advantages of stand-alone systems over centralized systems, and concluded their report with eleven specific recommendations contained in Appendix E.

In summary, the research activities described in this chapter include surveys of library directors receiving and not receiving FCLA services, interviews with LUIS users and library personnel, a review of automation efforts in other states and the report of a consultant team on library networking and automation in Florida. These research activities serve to supplement the extensive multi-year, four-phase study of library automation and networking in Florida conducted by King Research. The information obtained during the Commission's two public hearings, combined with the research activities, are the basis for the Commission's recommendations on library automation and networking in Florida. These recommendations are presented in the next chapter.

IV. ISSUES AND RECOMMENDATIONS

The FCLA has been an unqualified success. Technically, its activities have been limited to the internal automation of the nine state universities, including branches, and one community college. The library of a second community college included in the FCLA effort, Edison Community College, is regarded by the Center as a branch library of the University of South Florida. The FCLA has developed a separate catalog for each university rather than a union catalog, and has provided access to all catalogs for large numbers of users operating at terminals in these libraries and in remote locations.

The success of the FCLA, combined with the hope held out by the proviso language and the promise contained in the 1984 FCLA plan submitted to the Board of Regents by the University of Florida, have led many, falsely, to believe that the preferable road to automation is through affiliation with the FCLA. At least three important reasons argue against this conclusion. First, doubt exists as to whether current software, hardware and staff can accommodate or are appropriate for additional libraries. The more institutions which affiliate with the FCLA, the less satisfactory service each is likely to experience. Secondly, the owner and developer of the FCLA software (NOTIS) will require increased fees for the addition of libraries other than those now being served by the FCLA. The expensive NOTIS software is ill-suited for libraries other than large ones. Hence, for many community college libraries attachment to the FCLA would be neither cost effective nor provide the services for those libraries which a less expensive software package might provide.

Thirdly, the refinement of the software's search capability can lead to almost unlimited expansion of the database. Resources are always finite and the governance structure of the FCLA is dominated by the state universities it serves. To change the structure to accommodate new users who wish a voice in the determination of priorities would in effect lessen the influence of the state universities. Resulting dissatisfaction with the services rendered by the FCLA could lead to many undesirable results. Not to change the structure might result in the dissatisfaction of new affiliates who regard themselves as under or improperly served.

The voiced desire of many community colleges to become affiliates of the FCLA is in reality an expression of a desire to enjoy the benefits of library automation. The Commission believes Florida and its libraries would be better served by a combination of alternate courses of action rather than through unlimited expansion of the FCLA. The ultimate goal of the State is to improve libraries and services to their users through taking advantage of recent advances in technology. Such improvements should be the maximum possible with limited human and financial resources. The Commission's recommendations are designed to achieve the State's goal, and are intended to provide Florida libraries with a mix of systems that result in improved library automation services and more effective and efficient networking.

A. Establishing State Policy for Library Automation and Networking

In April 1986, King Research completed A Statewide Plan for Library Networking and Automated Library Systems Development in Florida. Subsequent to the King Research report, in September 1987, the Department of State's Division of Library and Information Services issued The Florida Long Range Plan for Interlibrary Cooperation which incorporated a substantial number of the King Research recommendations. These two plans provide a basic framework for library automation and networking in Florida.

To develop the organizational structure called for in these two plans, the Department of State's Division of Library and Information Services, under the leadership of the state librarian, created the Florida Library Network Council and the Florida Library Network Policy Board. The council is comprised of 33 members appointed by the Secretary of State, and includes broad representation among its membership of all types of libraries in Florida. The original appointments to the council were made in January 1987. At the first council meeting in February, the eleven-member Florida Library Network Policy Board was elected from the membership of the council. The policy board in a sense is an executive committee of the council created to make policy decisions regarding statewide networking developments. As recommended by King Research, "this two-tiered approach to the development of networking activities has the advantage of ensuring representation from all segments of the Florida library community in the development process, as well as providing a policy-setting group of manageable size."

At the public hearing in December 1987, the state librarian testified that the newly-created policy board should ensure that public funds are used only for compatible automation efforts which support network linkages among various databases, and also support established national standards for bibliographic information. Although these goals are commendable, the policy board has no statutory authority to assure their realization. While the Division of Library and Information Services has identified the Florida Library Network Policy Board as having the responsibility for ensuring compatibility among the various library automation systems and perhaps the responsibility for recommending approval of plans for networking and resource sharing submitted by libraries, the board has no actual power to enforce policy. Similarly, while it may be appropriate for a group such as the policy board to review budget requests to the Legislature to ensure state-level coordination and the spending of funds for networking in accordance with the statewide plan for library resource sharing, no authority has been granted to the policy board for this purpose. Thus, it is questionable whether the policy board under the current organizational structure will be capable of performing the significant duties assigned by the Department of State's Division of Library and Information Services.

King Research recommended that the Florida Library Network Policy Board be established within the Division of Library and Information Services, with the division director serving as administrator and primary coordinator of evolving networking efforts among Florida libraries. While the current statute grants broad powers to the Division of Library and Information Services to provide assistance, upon request, to all types of libraries (Sections 257.04 and 257.12, Florida Statutes), the state librarian is not granted the specific

statutory authority to coordinate the statewide network for resource sharing nor to administer the policy board in achieving its designated responsibilities. Nonetheless, the 1984 proviso which created the FCLA and each year's proviso since that time have required approval of the FCLA plan by the state librarian. This legislative action establishes a precedent for the director of the Division of Library and Information Services to serve as coordinator for library networking and automation activities in Florida.

Testimony provided by several sources during the December public hearing indicated that a state policy on library networking and automation is needed in Florida and that a coordinating board with designated authority is necessary to provide the umbrella for library resource sharing at the state, regional and local levels. Similarly, others testified that library budget requests for state support of networking and automation need to be coordinated.

To address this challenge, the Commission believes that the Florida Library Network Board should be established in statute and housed in the Division of Library and Information Services in the Department of State. The responsibilities of this policy board as they relate to library networking and automation should be to:

(1) Prepare and submit to the Cabinet and Legislature an overall master plan by which to guide library networking and automation in Florida for those libraries that wish to participate in networking activities supported through state and federal appropriations. Special libraries, such as the libraries of private corporations for which public access is not of primary importance, would probably not be included unless they desire participation in the Florida library network. The plan should be developed by the policy board in cooperation with the Board of Regents, the State Board of Community Colleges, the Department of State's Division of Library and Information Services, and the telecommunications supplier. The plan should include consideration of the recommended structure for the network organization, the development of a Florida database, a possible union catalog, procedures for interlibrary cooperation, and the automation and telecommunications support required for those activities.

(2) Recommend broad guidelines and standards for the development of networking and automation activities for different groups of libraries including state university, community college, private academic, public, and special libraries.

(3) Approve plans for library networking and automation systems which are or will become part of the Florida library network to ensure compatibility among network linkages between databases and to ensure that national standards for bibliographic information are met.

(4) Review sector budget requests of the various state budget units for comments and recommendations with respect to compliance with the statewide master plan for library networking and automation. The function visualized is analogous to that performed by the Commission

which has been granted statutory authority to review postsecondary education budget requests for compliance with the state master plan for postsecondary education before they are submitted to the State Board of Education. The budget requests of the State Board of Community Colleges and the Board of Regents should continue to be reviewed by the Commission, but also reviewed by the policy board with regard to library networking and automation. Advice of the policy board with respect to the appropriateness of the budget request should be submitted to the Governor and the Legislature.

(5) Provide the mechanism to facilitate technical assistance and information to centers, consortia, and individual libraries concerning software and hardware options and the costs involved in implementing library networking and automation systems.

(6) Review the implementation of the statewide master plan for networking and automation of Florida libraries annually, and report to the Legislature on progress made towards its implementation. This master plan should be updated every five years.

The Division of Library and Information Services should be provided funds to hire the necessary staff to support the powers and duties of the policy board. The staff should include individuals technically adept at providing assistance and guidance to libraries that are planning or implementing library networking and automation efforts.

Recommendations:

1. **The Florida Library Network Policy Board should be established in Florida Statute with the responsibility for providing broad policy supervision of Florida's libraries to ensure coordination of library networking and automation in the State. A major goal of the board should be to ensure compatibility among network linkages and to ensure that national bibliographic standards are met.**

   a. **The policy board should develop a master plan to guide library networking and automation for the State of Florida, approve plans for networking and automation submitted by individual or multi-type libraries, and review budget requests pertaining to networking and automation.**

   b. **The policy board should consist of eleven members appointed for staggered four-year terms by the Governor, approved by the Cabinet, and confirmed by the Senate. The members of the policy board should include five members of the general public, and a library director from each of six major types of libraries in the State:**

      - **state university libraries**
      - **community college libraries**
      - **private academic libraries**

- school libraries (K-12)
- public libraries
- special libraries

c. The state librarian should serve as executive director of the Florida Library Network Policy Board and shall be responsible for the appointment of all staff to the board.

2. The 33-member Florida Library Network Council should continue to be appointed by the Secretary of State and serve in an advisory capacity to the Florida Library Network Policy Board.

B. The FCLA: Its Mission, Scope and Governance

The FCLA was created in 1984 by a legislative appropriation to the State University System with the broad goals of developing centralized automation services for state university libraries and for extending these services to other types of libraries in Florida. The proviso language accompanying the appropriation each year since the inception of the FCLA served to define the mission of the Center. Though instructed to develop a library automation plan that would include the state university system, community colleges, private academic institutions, and public libraries, the extent and nature of services to be provided by the FCLA to these different groups of libraries were not set forth in the proviso. Nor were priorities placed on the order in which centralized automated library services were to be provided to state universities or to other types of libraries.

Both the 1984 University of Florida "Proposal for the Establishment of the Florida Center for Library Automation" and the FCLA's 1985 Information Resource Plan stated that the mission of the FCLA, a Type I Center of the State University System, is "to offer automated services to the libraries of the nine institutions of the State University System and to plan for making the same types of services available to other libraries within the State." The reference to extension of "the same types of services" to "other libraries within the State" as contained in the FCLA's plan suffers from the same ambiguity contained in the original and subsequent legislative proviso language. The Legislature should differentiate between the provision of "automated" services, which should be limited to state universities, and "networking and access" services, which can be extended to a wide variety of libraries. Such differentiation would help to clarify legislative expectations concerning the mission and scope of the FCLA with regard to the provision of centralized automated services. In this sense, the name "Florida Center for Library Automation" is something of a misnomer. More accurate would be a name that connotes the population of state university libraries actually receiving centralized automated services.

One complication regarding the ultimate scope of the FCLA is the initial inclusion of two community colleges. The FCLA and Board of Regents staff testified at the December public hearing that Santa Fe Community College is only a few miles from the University of Florida and had a joint agreement for automation with the university prior to the creation of the FCLA. The University of South Florida at Fort Myers has a contract with Edison Community College for use of the community college library. Yet, Santa Fe is not the

only community college in close proximity to a state university nor the only one which had a joint arrangement with a state university library prior to the creation of the FCLA. Similarly, Edison is not the only community college which shares a library with a state university. More confusing is the fact that Santa Fe Community College pays the cost of the FCLA services while Edison Community College does not.

Library functions at the nine state universities and two community colleges are being automated according to the five-year plan. Further, the level of institutional satisfaction with the services provided by the FCLA is high. The testimony of the president of NOTIS software, at the December 18th public hearing, affirmed the perceptions of the FCLA users surveyed by the Commission that the Center has succeeded in providing efficient and highly competent automation services.

The testimony of the FCLA director, the president of NOTIS software, and others, however, indicated that broad expansion of automated services to other types of libraries at this time would threaten the quality of service currently being provided. These individuals stressed that the extension of automated services to other institutions should be approached slowly and, in each case, tested carefully before proceeding with further expansion.

Recommendations:

3. **The primary mission and scope of the FCLA should be to automate state university libraries under the Type I governance structure now in place, and to facilitate networking linkages from state university libraries to other types of libraries through the State's designated telecommunications provider. As the State Board of Community Colleges develops a plan for the automation of community college libraries as called for in Recommendation 6, the libraries of Edison and Santa Fe Community Colleges should also be considered in that plan. The State Board of Community Colleges and the FCLA should jointly recommend whether community colleges which are receiving services from the FCLA should continue to do so, or become part of another organization to accommodate the operational plan for community colleges.**

4. **Commencing with the 1988 Legislature, proviso language should be altered to differentiate between "automated" and "access" services to be provided by the FCLA. This delineation should separate the internal automation services provided by the FCLA to state universities and selected community colleges on the one hand, from the networking through access services provided to additional users on the other.**

5. **To communicate more clearly the intent of the FCLA's primary mission and scope, the name "Florida Center for Library Automation" should be changed to the "State University Center for Library Automation" (SUCLA).**

C. Library Automation in Community Colleges

The State of Florida should make a commitment to provide state funds to support the automation of libraries in community colleges. Whatever the intent of the Legislature, funds appropriated for the FCLA have been used only to provide automated services to the nine state universities and Edison Community College, since Santa Fe Community College pays for the service it receives from the FCLA. The amount of funds currently provided to the FCLA is fully needed to automate the libraries of the State University System and will continue to be required to maintain and operate the system when it is fully implemented. Therefore, an additional legislative appropriation is necessary to support the automation of community colleges, and this appropriation should be made. Community college libraries need to have financial and technical resources to support library automation in a systematic manner. In addition, community college students and faculty need access to the bibliographic information of the state university system library holdings.

The State Board of Community Colleges is requesting $969,030 from the 1988 Legislature to develop a pilot project in 1988-89 that would begin the process of community college automation through the FCLA in the same manner as the state universities. The budget request includes funds for the automation of three additional community college libraries as well as the continuation of services to Santa Fe and Edison which are currently automated by the FCLA. This pilot project is envisioned by the State Board of Community Colleges as "a first step in the eventual phase-in by the FCLA of all 28 community colleges in the system."

Testimony provided by FCLA staff and others during the December public hearing indicated that it is probably neither feasible nor desirable for the FCLA to be expanded to include all community colleges. Further, based on surveys conducted by the Commission and State Board of Community Colleges, it is apparent that some community colleges prefer a decentralized approach to library automation to retain flexibility to meet their needs, rather than participation in the standardized approach required through affiliation with the FCLA. In addition, other community colleges are not ready to be fully automated, and some small institutions do not believe that such comprehensive, internal automation of their libraries is warranted at this time. All 28 community colleges are able to justify some level of internal automation for their libraries; however, specific automation needs vary greatly from college to college.

The State Board of Community Colleges should develop an inclusive plan for the automation of community colleges which provides support for automation on an incremental basis over a period of years. A set of criteria should be included in the plan to guide decisions about which community colleges should receive FCLA services and which colleges are not needed. Account must be taken of the fact that it may not be technically feasible nor desirable to add many community colleges to the FCLA. Therefore, first priority should be given to community college libraries which are shared with state universities, and 1988-89 funds should be appropriated only for this purpose.

Recommendation:

6. **The 1988 Legislature should provide the State Board of Community Colleges with resources to develop a plan for library automation for the community college system, including Santa Fe and Edison Community Colleges:**

   a. **The plan should recognize the FCLA's probable inability to expand to include all community colleges and consider alternative approaches to library automation, such as centralized automated services for community colleges and the identification of those colleges which could benefit from a decentralized approach to library automation. The plan should provide the estimated cost to automate each community college. The plan should also contain recommendations as to the total number of community colleges which should be included in the FCLA. Priority for inclusion in the FCLA should be given to libraries that are shared jointly with state universities.**

   b. **The community college library automation plan should be submitted to the 1989 Legislature and include a provision for grants from the State Board of Community Colleges to individual community colleges to facilitate internal library automation.**

   c. **Funding for the 1988-89 proposed pilot project with the FCLA should be limited to three additional community colleges that share libraries with state universities, are members of OCLC/SOLINET, and have their records currently in machine-readable (MARC) format. Further automation of community colleges by the FCLA, other than Santa Fe, Edison and those colleges identified for the pilot project, should not be funded until the community college plan is approved by the Florida Library Network Policy Board and the Legislature.**

The 1987 Legislature provided funds to ten community colleges to put their current catalogs into machine-readable (MARC) format. Each of these ten community colleges are members of OCLC/SOLINET. OCLC/SOLINET provides member support for MARC format tape handling and consulting services, which makes subsequent automation easier and less expensive. Hence, membership in OCLC/SOLINET or a suitable alternative approved by the policy board is considered essential for libraries that wish to become automated and participate in the Florida library network.

In its 1988 legislative budget request, the State Board of Community Colleges is asking that funds be provided to convert the records of the 18 remaining community colleges to MARC format. The total cost to the State to convert these estimated 639,500 records is $479,625. The records of new holdings of community college libraries should be given first priority for conversion to machine-readable format as is the case with state university libraries. Before funding is provided to convert the records of the remaining community

colleges to MARC format, these community colleges should be active members of OCLC/SOLINET or a suitable alternative approved by the policy board as a prerequisite of and commitment to ongoing automation.

Recommendation:

7. **The State Board of Community Colleges should ensure that each community college which requests a state appropriation to convert its library records to machine-readable (MARC) format is an active member of OCLC/SOLINET or a suitable alternative as determined by the policy board. Continued funding should be contingent upon membership in OCLC/SOLINET or the approved alternative.**

D. Making Provisions for Limited Expansion of FCLA Services

The FCLA is in its fourth year of a five-year plan to fully automate all principal library functions in the nine state universities and two community colleges. Testimony supports the belief that substantial progress has been made in accomplishing the FCLA's primary mission of internal library automation in the State University System and that the plan will be completed by 1989 on schedule.

In 1986, King Research stated that the FCLA staff "are fully occupied with building the databases of the individual State University System libraries and with preparing for implementation of the various subsystems." Following the building of the databases of the state university libraries, FCLA staff time must be devoted to adding newly acquired materials to the databases, maintaining and upgrading software and hardware, and facilitating the prompt handling of large volumes of information. Labor costs and time for automation, then, will not diminish as the system becomes operational.

Testimony provided at the Commission's December 1987 public hearing indicated that limited expansion of the FCLA to include a selected number of additional libraries may be feasible. However, the exact potential for expansion of automated library services to support additional libraries beyond the nine state universities and two community colleges is unknown. The president of NOTIS software testified that the FCLA has extended NOTIS further than any other user, and the possibility of expansion to include libraries beyond the current structure is conjecture at this point. This testimony was supported by the FCLA director who stated that only limited expansion may be possible.

The Commission believes that expansion, if deemed possible and desirable by the FCLA, should proceed slowly and that each extension of services should be carefully tested through use over a period of time before the additional inclusion of other community colleges. Further, prior to the extension of FCLA services beyond the 11 institutions currently being automated, the FCLA should develop guidelines and conditions under which limited expansion should occur. A set of priorities and a realistic timeline must be developed by the FCLA under which limited expansion of its services might be provided to community colleges on a contractual basis. The acceptance of a limited number of contracts by the FCLA should not alter the current governance structure as a Type I Center within the State University System.

Recommendation:

8. **Prior to the completion of its initial task of automating the library subsystems of the nine state universities and two community college libraries, and before the addition of other community colleges as called for in the proposed pilot project, the FCLA should develop guidelines and conditions under which automated services could be extended to a limited number of additional libraries through contractual agreements. First priority for this expansion should be given to current or proposed joint-use facilities at which a community college library is shared by a state university.**

As included in the recommended powers and duties of the policy board in Section A, the Department of State's Division of Library and Information Services should be the agency primarily responsible for providing technical assistance and consultant services on library networking and automation. On occasion, however, it may be desirable for the Division to refer individual libraries or groups of libraries to the FCLA for specific technical services.

Recommendation:

9. **Technical resources available through the Division of Library and Information Services should be the primary source for the provision of consulting and advisory services to Florida's libraries. In the event that technical expertise for a centralized automated system is unavailable at the Division and such expertise is available at the FCLA, assistance should be secured through the Center. A payment structure which is based on full cost reimbursement for technical and advisory services should be established by the FCLA to meet such demands.**

E. Meeting the Needs of Private Academic, Public and Special Libraries

The legislative budget requests to support networking and automation for the libraries of the nine state universities and 28 community colleges are coordinated at the state level by the Board of Regents and State Board of Community Colleges. These public postsecondary academic libraries and their relationship to an organizational structure, networking and internal automation were addressed in the previous sections and these issues will not be reexamined here. Yet a number of questions about the provision of services to other types of libraries remain unanswered. The proviso which created the FCLA called on the Center to provide services to private academic, public and special libraries. The diverse qualities and needs of these different types of libraries as well as the limit of the capabilities of the FCLA were not then known and thus not recognized in the legislative charge.

The Commission's survey of library directors found that public and private academic libraries are primarily interested in obtaining access to the databases of the FCLA for resource sharing. For the most part, these libraries have no desire for the FCLA to automate their internal functions in the centralized manner characteristic of the libraries of the State University System. Nor, as noted in the previous sections, is it appropriate or feasible

for the FCLA to serve this function. This viewpoint is shared by the State's largest private academic research library at the University of Miami, which has chosen a software package other than NOTIS to automate its principal library functions. The University of Miami's primary interest in the FCLA is for the purpose of networking to gain access through telecommunications to information regarding the holdings of the state university libraries. Conversely, such networking allows the State University System to obtain access to the database of the University of Miami.

In general, special libraries such as the libraries of private corporations have not requested that the FCLA provide centralized automated services to facilitate their cataloging, circulation, and acquisitions needs. For the most part, these special libraries do not require public access, and therefore, would not be included under the jurisdiction of the policy board unless or until they desire participation in the Florida library network.

Recommendation:

10. The FCLA should not be expected to provide services for the internal automation of public, private academic and special libraries not part of the State University System.

All public educational institutions (public schools, community colleges, and state universities) are linked to the Florida Information Resource Network (FIRN), an educational communications network. FIRN was created as a means of electronically linking all levels of public education for the rapid and effective exchange of information among local education agencies and the State. For the past two years, FIRN has been involved in an extensive software development effort. Plans call for using FIRN to promote resource sharing among all libraries in public educational institutions.

King Research recommended that the expansion of the Florida Information Resource Network be considered so that FIRN could be utilized as the primary network responsible for interlibrary communications among all public, academic, school and special libraries in Florida. As an important first step towards achieving this goal, in 1987 the FIRN Coordinating Council approved a pilot project with the Division of Library and Information Services to provide ten public libraries with access to the databases of the FCLA. The project will determine the accessibility of the state university library catalogs to the participating libraries in order to help establish the criteria for access to all Florida public libraries and possible expansion to other types of libraries in the State as well.

Recommendation:

11. If technically feasible, FIRN should be used as the network for interlibrary communications and networking among all types of libraries in Florida. The FIRN pilot project with public libraries should be carefully monitored by the Florida Library Network Policy Board to determine whether FIRN's telecommunications linkages can be expanded to support networking for all Florida libraries. In the event it is determined that FIRN can not support the electronic linkage of

all libraries in the State that wish to participate in the Florida library network, another telecommunications system should be sought.

The director of the Division of Library and Information Services noted at the Commission's December public hearing that the Department of State has taken the primary responsibility for ensuring that the interlibrary cooperation and networking needs of public libraries are met. The division director further noted that while budgetary requests for state universities and community colleges are submitted to education appropriations subcommittees in the Legislature, other libraries fall under the auspices of the Department of State and are reviewed, therefore, by the general government subcommittees in the House and Senate. This factor has caused a lack of coordination among different types of libraries and a lack of funding for libraries providing public access.

Public funding for the networking and automation of public and private academic libraries has been provided primarily by the Department of State through federal Title III grants funded through the Library Services and Construction Act (LSCA). Title III grants have amounted to approximately $750,000 per year, and federal guidelines stipulate that these monies must be used by the Division of Library and Information Services to encourage networking among libraries providing public access. Competitive proposals are submitted annually to the Division and reviewed by the State Advisory Council on Libraries as required by federal rules and regulations. The Commission believes that LSCA Title III grants are useful for this purpose and should be continued under the guidelines developed by the policy board in cooperation with the State Advisory Council on Libraries. The Commission notes, however, that it is appropriate that state tax dollars are also utilized to support conversion to an automated system and subsequent networking for libraries providing public access, and that a state grant should be developed for this purpose. The State can strengthen its commitment to improved library services by providing funds for library networking and automation among libraries in a manner similar to the Title III grants.

Recommendation:

12. **A state grant program should be created by the Legislature to provide funds, through the Florida library network and under the provisions of the State's library master plan, to support library networking and automation activities among Florida libraries providing public access.**

F. Costs and Financing

Automation, despite representations by many to the contrary, does not reduce costs. The improved service made possible through automation represents an additional cost, although a cost that is small in relation to the increased service and resulting increased use. Libraries were never intended as lifeless and inaccessible warehouses of the past. They exist to serve. Automation enables them to better achieve that goal.

Libraries need to approach automation with caution. Libraries with small holdings and small acquisition budgets probably do not justify the required money for expensive hardware, software and technically trained personnel. The tasks of tracking purchases, billing, acquisitions and cataloging are of a different magnitude and hence character for the purchase of three thousand rather than fifty thousand books per year. Searching for a title in a catalog with ten thousand cards is not the same time-consuming task as searching for a title in a catalog containing two million cards. Smaller libraries need to carefully differentiate between functions that may be efficiently facilitated with a microcomputer and those that could be executed more efficiently using manual techniques. The gains brought about by automation do not, in certain cases, warrant the additional costs.

As a rule of thumb, automation requires an additional five percent of a library's budget. This calculation remains a constant, although the use of the funds changes dramatically over time. For the first few years, much of the money is required for purchase of equipment and conversion of data to machine-readable (MARC) format. Strangers to the process might anticipate a diminution of expenditures once the equipment is purchased and the data loaded. Such is not the case. Initial start-up charges are equaled and replaced by the recurring costs of maintaining software; adding newly acquired materials to the databases; maintaining, replacing and upgrading equipment; increased use of telecommunications and machine time; rising costs of staff and supplies; and additional operating expenses. It is these latter recurring expenses which represent additional services in the form of information, prompt handling of large volumes of data and accessibility, including remote access and networking.

The greater availability of more information increases the demand for such information. Studies have shown that implementation of an online catalog in a single library usually increases library use by 20 to 50 percent. This increased use may eventually result in a review of the issue of whether charges should be made for commercial or non-state supported users. At this point in the development of networking and automation among Florida's libraries, however, the Commission believes that the State should undertake the long range support, under approved plans, for such efforts. Both the state university and community college libraries, as well as the State Library, should be included in this support. The long range plan developed by the community colleges should take into account the relationship between costs and benefits for the smaller libraries. In addition, the State should financially support, through the Division of Library and Information Services, the development of a networking capability among all libraries that wish to become part of the Florida library network system.

Recommendation:

13. To promote the coordinated development of the Florida library network system, the Legislature should fully support the automation needs of the State Library.

Conclusion

Florida stands in the forefront of library automation and networking activities nationwide. The Florida Center for Library Automation (FCLA) has been a major contributor to this status as it approaches its primary goal of automating the basic library functions of the State University System libraries. After an extensive investigation, the Commission concludes that unlimited expansion of the FCLA is neither feasible nor desirable, and that Florida and its libraries would be better served by a combination of alternate courses of action.

The Commission's report reflects the significant distinction between library automation and library networking activities. The diversity of public, academic and special libraries throughout the State calls for equally diverse internal automation systems designed to suit the needs of individual libraries or groups of libraries. Networking efforts, on the other hand, call for state-level coordination and cooperation among all types of libraries that wish to participate in the Florida library network. The Commission's recommendations are intended to help Florida achieve the dual goals of increased resource sharing among libraries and improved service for patrons.

APPENDIX A

SURVEY OF LIBRARY DIRECTORS RECEIVING FCLA SERVICES

Name of Institution _____

POSTSECONDARY EDUCATION PLANNING COMMISSION

Florida Center for Library Automation Study

Services Survey

In 1984, the Florida Center for Library Automation was created to automate the SUS libraries and to plan for making such services available to other Florida libraries. The 1987 Legislature directed the Postsecondary Education Planning Commission (PEPC) to conduct an evaluation of the Florida Center for Library Automation (FCLA). The study is to be submitted to the Legislature no later than February 1, 1988.

Your institution is currently receiving automation services from FCLA, please response to the following questions regarding services supported by the FCLA.

ORGANIZATION

1. Which of the following services supported by FCLA are currently operational in your library?

	Yes	No
Cataloging		
Maintenance		
On-line Public Catalog (LUIS)		
Remote Access		
Circulation		
Acquisitions		
Serials Control		

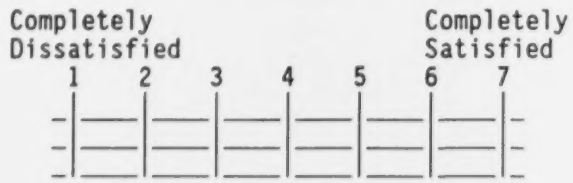
2. Of those services currently not operational, when do you expect to be fully automated regarding the following FCLA services?

Cataloging	
Maintenance	
On-line Public Catalog (LUIS)	
Remote Access	
Circulation	
Acquisitions	
Serials Control	

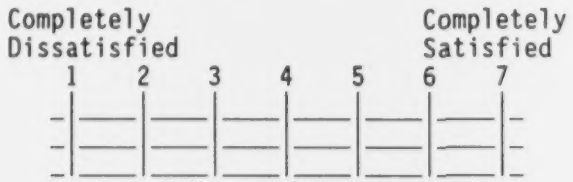
3. How would you rate your overall level of satisfaction with the quality of FCLA services regarding the following **catalog** subsystems?

	Completely Dissatisfied 1	2	3	4	5	6	Completely Satisfied 7
Cataloging							
On-line Public Catalog							
Remote Access							
Catalog Maintenance							

4. How would you rate your overall level of satisfaction with the quality of FCLA services regarding the **circulation** function?



5. How would you rate your overall level of satisfaction with the quality of services regarding the **acquisitions** function?



6. What **major problems** has your library encountered in automating your **cataloging** function through services provided through FCLA? Please specify.

_____
_____
_____
_____

7. What **major problems** has your library encountered in automating your **circulation** function through services provided through FCLA? Please specify.

_____
_____
_____
_____

8. What **major problems** has your library encountered in automating your **acquisitions** function through services provided through FCLA? Please specify.

_____
_____
_____
_____

9. The FCLA uses a committee structure (Public Services and Technical Services) to assist with defining projects and developing data specifications. What is your overall satisfaction with the committee structure of FCLA in addressing your overall automation needs?

Completely Dissatisfied						Completely Satisfied
1	2	3	4	5	6	7

10. Which of the following possible benefits of automation and networking have been realized by your library as a result of the services provided through FCLA?

	Yes	No
Access to Greater Resources		
Cost Savings		
Space Savings		
Labor Savings		
Improved Commitment		
None of the Above		

11. Which of the following possible benefits of automation and networking to patrons have been realized by your library as a result of the services provided through FCLA?

	Yes	No
Increased Access to Library Materials		
Improved Service Delivery		

12. What modifications would you recommend to the FCLA systems/subsystems currently being used by your library?

13. Which of the following benefits have been provided to your library through the services provided through the FCLA?

	Yes	No
Access to all SUS		
Cost Saving to Library		
Ease of Catalog Maintenance		
Union Catalog for a University		
More up-to-date Catalog		
Circulation Date Integrated with the Catalog		

14. Please use the space below to provide any other comments, concerns, or suggestions regarding the Florida Center for Library Automation.

Thank you for responding to this questionnaire.

APPENDIX B

SURVEY OF LIBRARY DIRECTORS NOT RECEIVING FCLA SERVICES

Name of Library Director:_____ Date:_____
Name of Library:_____ Phone:_____

POSTSECONDARY EDUCATION PLANNING COMMISSION

Florida Center for Library Automation (FCLA) Study

Questionnaire for Potential Users of the Florida Center for Library Automation (FCLA)

Directions: The Commission has been asked by the 1987 Legislature to evaluate the Florida Center for Library Automation (FCLA). This questionnaire has been designed to determine your library's interest in and capability of using the FCLA's services as well as provide you with an opportunity to share your perceptions on other aspects of library automation.

Please respond to the following questions regarding your library's potential use of automation services provided by the FCLA.

1. What is the organizational **type** and **structure** of your library? (Please Check)

Library Structure	Library Type		
	Public Library	Private College or University	Community College
Single library			
Main library with branch libraries			
Group of libraries without a main library			
Other (Please specify)_____			

2. How large is your library's collection? What percentage of the collection did you acquire during the past year?

	Number of Items Held	Percentage of Materials Acquired Between 1/86 - 12/86
Circulating items		
Serials/periodicals		
Audio-visuals		
Other (Please specify)		
_____		
_____		
TOTAL		

3. Which of the following best describes the development of your library's collection? (Please Check)

	Steady Level of Annual Acquisitions	Major Effort Underway to Build Collection
Circulating items		
Serials/periodicals		
Audio-visuals		
Other (Please specify)		
_____		
_____		

4. A library collection must be in Machine-Readable Cataloging (MARC) format to use the FCLA services. What percentage of your library collection is currently in Machine-Readable Cataloging (MARC) format? Do you expect to convert your holdings to Machine-Readable Cataloging (MARC) format? If so, when do you expect to complete this conversion?

	Percentage of Materials in MARC Format	Will You Convert to MARC Format? Yes	No	Expected Completion Date (MTH/YR)
Circulating items				
Serials/periodicals				
Audio-visuals				
Other (Please specify)				
_____				
_____				
_____				

5. Which of the following library functions are fully or partially automated in your library? (Please Check)

	Fully Automated	Partially Automated
Catalog		
Maintenance		
On-line public catalog		
Remote access		
Circulation		
Acquisitions		
Serials control		

If automated, please describe how: _____

_____

_____

_____

6. The Florida Center for Library Automation offers the automation services listed below. Libraries may either be interested in an alternative automation system or using FCLA services in part or total. Which of the following functions would you be interested in automating through FCLA or an alternative based on the funding considerations indicated? (Please check those which apply)

	CATALOG					
	Maintenance	On-line Catalog	Remote Access	CIRCULATION	ACQUISITIONS	Serials Control
a. Interested in FCLA	___	___	___	___	___	___
b. Interested in an alternative	___	___	___	___	___	___
c. Interested in FCLA if external funding is available	___	___	___	___	___	___
d. Interested in FCLA if your library pays a portion of the cost	___	___	___	___	___	___
e. Interested in FCLA if your library has to pay all of cost	___	___	___	___	___	___
f. Not interested in automation	___	___	___	___	___	___

7. How would you assess your library's degree of readiness to implement in automation functions listed below through the FCLA?

	Low Readiness						High Readiness
Catalog							
Maintenance	1	2	3	4	5	6	7
On-line public catalog	1	2	3	4	5	6	7
Remote access	1	2	3	4	5	6	7
Circulation	1	2	3	4	5	6	7
Acquisitions	1	2	3	4	5	6	7
Serials control	1	2	3	4	5	6	7

8. How would you assess your library's degree of readiness to implement the automation functions listed below using an alternative automation system?

	Low Readiness						High Readiness
Catalog							
Maintenance	1	2	3	4	5	6	7
On-line public catalog	1	2	3	4	5	6	7
Remote access	1	2	3	4	5	6	7
Circulation	1	2	3	4	5	6	7
Acquisitions	1	2	3	4	5	6	7
Serials control	1	2	3	4	5	6	7

9. How many interlibrary loans (both materials and photocopies) did your library request during the last fiscal year? How many items were you successful in borrowing? How many items did your library loan during the last fiscal year?

Items requested from other libraries? _____
Items borrowed from other libraries? _____
Items loaned to other libraries? _____

10. In which of the following formal networks or consortia does your library participate? For those in which you are currently not participating, please check any you plan to participate in next year.

	Check Those Which Apply	Planned For 1988
a. OCLC/SOLINET full member		
b. OCLC/SOLINET selective user		
c. Florida Library Information Network (FLIN)		
d. Southeast Florida Library Consortium (SEFLIN)		
e. Tampa Bay Library Consortium (TBLC)		
f. Other (Please specify) _____ _____		

11. Which of the following benefits of library automation and networking do you believe would be realized by your library as a result of the services which could be provided through the FCLA?

	Check Those Which Apply	Comments
a. Access to greater resources		
b. Ease of catalog maintenance		
c. Cost savings to library		
d. More up-to-date catalog		
e. Space savings		
f. Union catalog		
g. Labor savings		
h. Improved communication		
i. Improved delivery of services to patrons		

12. Please review the following library automation priorities and indicate which are your top three priorities. Rank them from your first priority (1) to your third priority (3). An explanation of these priorities is appended.

_____ a. Access to SUS catalogs
_____ b. Florida union catalog online
_____ c. Florida union list of serials online
_____ d. Addition of unique and special databases to FCLA
_____ e. Interlibrary lending subsystem added to FCLA system
_____ f. Consulting and advisory services from FCLA
_____ g. Links from FCLA to TBLC, SEFLIN and other systems
_____ h. Link from FCLA to OCLC
_____ i. Full housekeeping services from FCLA
_____ j. Other:_____

13. Please use the space below to provide any other comments, concerns, or suggestions regarding the Florida Center for Library Automation and the possible participation of your library.

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_____
_____
_____

Thank you for responding to this questionnaire.

Explanation of Priorities Included in Item 12

a. Access to SUS Catalogs

Currently access to Libraries outside the SUS is available via telecommunications links. Libraries funded by the Department of Education (SUS, Community Colleges, School Districts) can access it through FIRN at no charge. All others require a long-distance phone call.

If it is desirable, a proposal for additional funding to establish a free or reduced cost telecommunications network can be developed. Added to that would be funds to cover the costs for online access, training materials and user guides, workshops, and a coordinator to provide the user support needed by the libraries.

b. Florida Union Catalog Online

Currently, COMCAT has been distributed in microform annually. The holdings reflected in this union catalog (bibliographic data and library identifiers) could be loaded into a separate database of MARC records searchable by author, title, and subject. Funding would be needed to cover the cost of data, data storage, access costs, programmer time, and training/user support personnel.

c. Florida Union List of Serials Online

Records describing the journal and periodical titles held in Florida along with the specific holdings data for each library could support ILL in Florida. Funds would be needed to cover costs for data, data storage, access costs, programmer time, training/user support personnel. This project would require libraries to participate in the online input of holdings data.

d. Addition of Unique and Special Databases to FCLA

There are unique collections of materials located in libraries outside of the SUS which may be of interest to researchers in Florida. These collections may or may not be cataloged in a machine-readable format (MARC). Funding must be sought to cover the costs of identifying, acquiring, and processing the MARC data, if available. If not available, funding to convert the cataloging into MARC may be required.

e. Interlibrary Lending Subsystem added to FCLA System

The NOTIS system does not have an ILL subsystem which enables requests to borrow and acknowledgements to lend to be electronically communicated. Funding could be sought to develop such a component. Additional funding would be required to support the ongoing operations of the service (storage, online access costs, training materials, workshops, training/user support personnel).

f. Consulting and Advisory Services from FCLA

FCLA staff have developed considerable expertise in library automation and networking. That expertise could be shared with libraries in Florida

on a contractual basis to compensate for stafftime travel, printed materials, etc.

g. Links from FCLA to TBLC, SEFLIN, and Other Systems
Local and shared systems exist in many Florida libraries. If computer-to-computer links could be developed, users of one system could tap into the resources of another. Such a capability would require funding for initial development costs and ongoing expenses.

h. Link from FCLA to OCLC
If libraries in Florida had free or reasonably priced telecommunications access to the FCLA system which was linked to the OCLC system, costs to use OCLC could be reduced significantly thereby reducing the costs of either statewide or national ILL activity. Such a link would involve cooperation from OCLC and considerable funding for development. Once developed, there would be ongoing costs to be sustained.

i. Full Housekeeping Services from FCLA
Full service by FCLA is defined as using the system to support local, internal library functions: online catalog, circulation, acquisitions, serials check-in. The costs of full service would be comparable to the costs of a local, in-house system and may have to be borne by the libraries using this service. Service would be provided via contract with FCLA.

j. Other
Any automation need which your library has that would fall into your top 3 priorities. Please describe the need. You may include additional "other" items as you require.

LIBRARIES INVOLVED IN NON-USERS SURVEY

Community Colleges

St. Petersburg Junior College *
Tallahassee Community College
Pensacola Junior College *
Valencia Community College (East Campus)
Valencia Community College (West Campus) *
Brevard Community College (Melbourne)
Brevard Community College (Cocoa) *
Gulf Coast Community College *
Hillsborough Community College *
Manatee Community College
Broward Community College

Colleges/Universities

University of Tampa *
Barry University
Jacksonville University
University of Miami
Florida Institute of Technology *
Nova University *
Stetson University *

Public

Pensacola Public Library *
Bay County Public Library
Jacksonville Public Library *
Putnam County Library
Alachua County Library
Cocoa Beach Public Library
Okeechobee County Public Library
Orange County Library
Pasco County Library
Clearwater Public Library *
Fort Myers Beach Public Library
West Palm Beach Public Library
Collier County Public Library *
Palm Beach County Library
Leon County Public Library *

* Libraries which returned survey.

APPENDIX C

QUESTIONNAIRE ON LUIS: THE FCLA'S ONLINE CATALOG

Name:_____ Library:_____

Circle One: Faculty Student Other Date:_____

FLORIDA LIBRARY AUTOMATION STUDY
QUESTIONNAIRE FOR FACULTY/STUDENTS WHO USE LUIS

1a. For how long have you been using LUIS: The Online Catalog? _____

b. How many times a month do you typically use LUIS? _____

2a. Has LUIS improved your use of the library? YES NO NOT SURE

b. If yes, in what ways?

c. If not, why not?

3. How would you rate your overall level of satisfaction with LUIS?
VERY DISSATISFIED DISSATISFIED NOT SURE SATISFIED VERY SATISFIED

4a. Is LUIS user friendly (i.e. easy to use)? YES NO NOT SURE

b. If yes, in what ways?

c. If not, why not?

5. As you understand it, what library holdings are included in LUIS?

6. To what extent are you satisfied with the following library functions:

a. posting of on-order and newly-acquired materials (books, periodicals)?

b. system for indicating the availability of library materials?

c. interlibrary loan system?

d. management of existing and incoming periodicals?

7a. Is the number of terminals in the library sufficient to accommodate students and faculty? YES NO NOT SURE

b. Are the locations of terminals in the library convenient?
YES NO NOT SURE

8a. Have you ever used LUIS from a location other than the library?
YES NO NOT SURE

b. If yes, were you satisfied with it and why?

c. Are the locations of LUIS terminals outside the library convenient?
YES NO NOT SURE

9a. Is LUIS always operational? YES NO NOT SURE

b. If not, how frequently have you noticed that the system is down?

c. How often have you had difficulty bringing up the LUIS system at an individual terminal?

10. Do you have any further comments about the LUIS system?

Student Comments:

- I like it/It's a good system. (16)
- Cross-referencing would be helpful. (8)
- Resetting information is needed. (5)
- Should have all library materials on it. (4)
- I like the card catalog/public library better. (2)
- There needs to be more information about the system. (2)
- Should be easier access to other SUS databases. (2)
- There's too much information on the screen/hard to read information. (2)

Faculty Comments:

- Periodicals should be listed separately.
- More search capabilities are needed, with more key words (like "BRS After Dark.")
- Increase purchase of ROM disks of various indexes to enable searches of bibliographic materials through terminals.
- Cross referencing is not available, and that would help alot.
- Priority should be given to making sure that everything is in LUIS, in all state university system libraries.
- LUIS was not adequate for bibliographic compilation.
- I want to learn more about it; a little briefing session might help.
- I probably wouldn't have gone to a librarian; a colleague showed me how.
- Why don't we have the National Union Catalog on the LUIS system?
- Would be helpful if they would hook up terminals, at least temporarily, in the offices.
- Problems are not with the computer, but with the user.
- A program should be developed whereby a person who's interested in a full bibliography in a particular area should be able to get one easily.
- I usually go right to the stacks - I know where my books are.
- I'm very happy with system.

APPENDIX D

REVIEW OF LIBRARY AUTOMATION EFFORTS IN OTHER STATES

LIBRARY AUTOMATION IN OTHER STATES

INTRODUCTION

In August 1987, Planning Committee staff disseminated a questionnaire to all state higher education executive officers asking for information on any statewide efforts planned or currently underway to automate state university, community college, public, special or independent institution libraries. Respondents were also requested to describe the objectives and accomplishments of such projects and the types of services provided.

Information was received from nine states. All states with known state library automation efforts responded. A review of the responses reveals variation in the extent to which local library functions are automated, though all institutions project eventual conversion to automated systems for most library functions. At the same time that many libraries are pursuing their automation goals independently, in most of the states surveyed organizational structures have been created to support the development of statewide automated networks.

OHIO

In Ohio, the majority of the 135 academic and 250 public libraries obtain the library services and products of the Online Computer Library Center (OCLC) through a state-level network called OHIONET. In the thirteen state-assisted university libraries, reciprocal on-site borrowing privileges are provided for faculty and graduate students.

Eight of the thirteen university libraries have automated local systems for circulation control, which in some cases also serve as a supplement to or substitution for the card catalog. Several institutions offer no-charge dial access as well. Yet because the systems are largely incompatible, statewide intercommunication between locally automated, institutional library systems is not possible.

Instructed by the Ohio Legislature, in 1986 the Library Study Committee of the Ohio Board of Regents surveyed the present status and projected goals of two - and four-year institutions in the state of Ohio. A great variety and number of regional, statewide, interstate and national collaborative network arrangements was reported. One consistent projection of all institutions was eventual conversion to automated systems for most library functions. On the basis of the library survey and a comparative analysis of the Illinois, California and Harvard University systems, the Committee made the following recommendations relevant to collaborative efforts:

> Expeditious implementation of a statewide electronic catalog system that would complement local systems and be accessible through them, and be made available to private college, large public and other libraries as well as publicly-assisted academic institutions;
>
> Retrospective conversion of existing catalog records to machine-readable form for inclusion in the statewide online system; and
>
> Development and implementation of a statewide distribution system for library materials.

ILLINOIS

Illinois' Library Computer System (LCS) is a computer-based library resource-sharing network that, in 1980, expanded statewide to facilitate resource-sharing and interlibrary cooperation among participating institutions. The LCS serves twenty-seven public and private academic libraries in Illinois. In addition, the LCS provides access to its database for eighteen regional library systems throughout Illinois through the Illinois Library and Information Network (ILLINET). In conjunction with the Intersystems Library Delivery Service (funded by the Illinois State Library) the LCS online circulation and access system enables users to search, borrow and receive within four days materials from any of the LCS libraries. This system represents a significant improvement over more traditional forms of interlibrary loan. In addition, the involvement of both larger and smaller libraries has proved to be mutually beneficial. According to Bernard Sloan, Manager of LCS User Services, "even the smallest LCS library has something to offer to the largest...an estimated 35 percent of the smallest library's collection consists of titles not represented in the largest library's LCS database." All libraries with dial-up capabilities can access the LCS, whether or not they are members. Administered by the University of Illinois' Urbana-Champaign campus, the LCS is principally funded by tax dollars in one of three forms: (1) legislative appropriations earmarked for LCS, (2) allocations by the University of Illinois from its own budget and (3) payments by member libraries for equipment, maintenance and telephone lines. Having been designed in the 1960s, LCS does not adhere to the MARC standard.

In 1984, a Task Force was created to investigate the future needs and priorities of the LCS, and a consultant was retained to study the future of the LCS. An increased commitment of resources from the State of Illinois and members of the user community was eventually requested to expand participation, create new cooperative interlibrary development projects, continue additional system enhancements and add a local/statewide online cataloging function based on the University of Illinois at Urbana-Champaign's (UIUC) online catalog. The UIUC online catalog, being a more recent development, does not adhere to the MARC format. Since 1984, the UIUC library's online catalog has been made available at each of the LCS libraries, allowing users to search catalog records in the UIUC catalog and return to LCS to facilitate interlibrary searching and circulation capabilities. Because the State library is participating in these automation endeavors, there will eventually be linkages to public, special, school and regional, as well as academic, libraries in Illinois. Further, the Illinois State Library has provided funds for the development of a State online union catalog based on the UIUC union catalog system. Managed by the UIUC library, the statewide catalog will ultimately include all of the records cataloged on OCLC by Illinois libraries.

The LCS is governed by three related bodies, the Illinois LCS Organization (ILCSO), the LCS Policy Council (LCSPC) and the Operations Committee. The ILCSO is composed of the directors of all LCS libraries, and deals with generalized administrative functions. Policy and broad operational matters are debated by the LCSPC, a group of six library directors elected from the ILCSO and three University of Illinois administrators. In addition, one representative from each member library comprises the Operations Committee,

whose purpose it is to consider substantive changes to the system, share system techniques and monitor performance. The ILCSO has received its funding from the Illinois Board of Higher Education through the University of Illinois in much the same manner as the Florida Center for Library Automation receives funding through the Board of Regents. Since the addition to LCS of an online catalog, the project receives a mix of funding from the Board of Higher Education, and grant money and transaction fees from university libraries using the online catalog.

Bernard Sloan of LCS User Services notes several factors contributing to the success of LCS resource-sharing efforts in Illinois:

- an existing spirit of cooperation and sharing among Illinois libraries prior to the introduction of LCS,
- an initial and continuing high level of support from various sources such as the UIUC library, the University's administration, the Illinois Board of Higher Education and the Illinois State Library,
- the cost-effectiveness of LCS as a resource-sharing system,
- efficient and effective delivery of library materials via well-run regional and statewide document delivery services, funded by the Illinois State Library.

NORTH CAROLINA

In North Carolina, several libraries of University of North Carolina institutions had already independently automated some library functions when a comprehensive state plan was created by the President's Office and the University of North Carolina library Council. The plan had two objectives:

to provide at each of the 16 constituent institutions of the University a computerized or online catalog and to integrate this catalog with the internal functions of the library.

to link these libraries with each other, with other North Carolina libraries and with regional and national networks.

Monies were committed by the State's General Assembly to establish an online catalog and an automated library system at each University institution, as well as aid network development and provide for the recurring costs of the completed plan. Computer equipment and software was chosen to provide for online, comprehensive and integrated local systems, most of which are now operational. All the university libraries are members of SOLINET, through which prospective and retrospective conversion of records to machine-readable form has taken place. Two already existing online catalogs at the University of North Carolina at Charlotte and East Carolina University provided the opportunity for sister institutions to observe the development of the local automation process.

A longtime cooperative association between the libraries of the University of North Carolina at Chapel Hill, North Carolina State University and Duke University provided the foundation for the proposed University-wide network. The Triangle Research Libraries Network (TRLN) consists of online catalogs at each of the three institutions, linked together so that users on all campuses can access them as if they were a single database. A computerized network known as LINCNET, and run by the University of North Carolina Computing Service, has been modified to provide linkages such that each catalog is available on each campus. The use of this existing utility has meant dramatic savings over the use of commercial telecommunications. State-operated microwave transmissions also carry part of the network traffic.

NEBRASKA

Public postsecondary academic institutions in Nebraska are grouped according to type (state university, state college or community college) and overseen by different governing bodies. All participate in the Nebraska State Union Catalog (NEUCAT) and most in the OCLC, for catalog, serials control and especially interlibrary loans functions. Though NEUCAT is currently in microfiche form, plans are underway to eventually place the database in an online system.

All four universities in the University of Nebraska system have local automated circulation systems. In addition, one of these, the University of Nebraska Medical Center, has recently acquired an integrated system with public access catalog, circulation and other functions, as well as linkages to the other three campuses in the system. The upgrading of the Medical Center's library automation system was funded by a federal grant, and approved by the University of Nebraska System's governing body, the Nebraska Board of Regents. Currently, each of the other campuses is similarly seeking dollars to improve and expand their library automation systems. Though the library directors of the four campus libraries coordinate some planning, each is pursuing resource-sharing and automation somewhat independently. The only exception is the cooperative effort to build a linked integrated system between the libraries of the University of Nebraska and the University of Nebraska Law School, since they are both located in Lincoln.

VIRGINIA

In Virginia, library automation capabilities vary somewhat among senior four-year public universities, which operate autonomously. All public four-year institutions and one two-year college in Virginia use SOLINET for catalog, serials control and interlibrary loan functions. Approximately half of the public universities have online public access catalog and circulation systems, but because software and hardware specifications differ, these systems are not linked. Neither are there currently plans underway to do so. Most universities are slowly converting bibliographic entries to a machine-readable format, and the retrospective conversion is taking place through SOLINET. The Virginia State Library has compiled a large database from SOLINET and other machine-readable records that is available for use by academic and public libraries throughout the state. This information is recorded on microfiche catalog, and includes less than 10 percent of the holdings of the academic libraries. Though proposals to put this catalog

online have been submitted, it is not expected that necessary funding will be provided in the near future.

NEW JERSEY

A wide variety of automation efforts are represented in New Jersey's public, academic and special libraries. Over 120 libraries in the state are OCLC members, and primarily use the shared cataloging and interlibrary loan subsystems. Both of the state's two largest universities, Rutgers and Princeton, are members of the Research Libraries Information Network (RLIN) as well. Fourteen minicomputer-based online circulation control systems operate throughout the state at different levels: locally in four public and two private colleges, county wide in six counties and statewide in two university systems (Rutgers and the State College System). In addition, through locally-developed systems, microcomputers are variously used for serials, inventory control and acquisitions functions at special, public and school libraries.

Resource sharing is also facilitated by the New Jersey Union List of Serials (NJULS), a location tool with information on over 30,000 periodical titles owned by 80 New Jersey state, major county and urban libraries as well as a number of specialized and technical collections. The NJULS provides access to 168,000 locations for direct forwarding of photocopy requests, allowing orders to be filled rapidly and accurately. The OCLC database is also supplemented each February and August with updates of the NJULS microfiche and the Rutgers supplement to the NJULS, which contains information on approximately 30,000 additional titles held by the Rutgers University Library.

In the face of this diversity of use, the State Librarian in 1980 appointed a Computer Application Task Force to study and recommend ways in which computer technology could be used to support development of a statewide network. As a result, King Research of Rockville, Maryland is currently under contract to complete an extensive study of automation in New Jersey. Meanwhile, the State of New Jersey continues to provide major financial support to libraries for planning, bibliographic conversion of data and implementation -- the three essential components of the automation effort. This assistance supports the long-range goal of creating a statewide database and a statewide computer network which will link libraries of all types. Additional automation assistance is provided by the New Jersey State Library through individual consultations, microcomputer workshops and the dissemination of relevant reports and studies.

OKLAHOMA

Eight academic libraries and three county, city or state library systems in Oklahoma are automated. Because a number of different software systems are used by these libraries, however, networking and automated resource-sharing are not possible. Several comprehensive studies of academic libraries in Oklahoma completed by the Oklahoma State Regents for Higher Education have addressed this issue of incompatibility among local automated systems. Using mail surveys, the Regents' Library Study Advisory Committee compared Oklahoma's academic libraries with like-type institutions in a ten-state region. As the result, specific recommendations were made to establish a

library communications network linking all libraries and university centers wishing to participate. Yet before such a network can be implemented, protocol conversion to a standardized software format is necessary. Once this accomplished, the vehicle for the library network will be the existing transmission and delivery capabilities of the Regents' Televised Instruction System.

Though used primarily to transmit audio and video television signals, the System's data lines can provide a conduit for communication between computers. In this way, libraries of all types -- public and private, school and academic, automated and unautomated -- should be included in the network. Ample funds for the requisite enhancements to the existing system, which serves a multitude of different purposes, have been provided by a large grant from the W.K. Kellogg Foundation. A number of organizational and administrative tasks remain to be completed. To this end, the Library Study Advisory committee's Subcommittee on Library Networking recommended the creation of an association to coordinate protocol conversion, collections development, overall policy development, among other concerns relevant to the formation of a statewide system. Still in its formative stages, this association will spearhead the effort to promote a statewide library network among both public and private institutions of higher education.

CALIFORNIA

The state of automation in the nine campus libraries and two regional storage facilities of the University of California system varies greatly. While some campuses have invested substantial resources and established a degree of operational capability, others have yet to do so. Though the University of California's Division of Library Automation (DLA) created its own central union catalog called MELVYL, its usefulness has been limited by the need for more space, up-to-date equipment and a new operating system. MELVYL is an online catalog that serves as a supplement to local catalogs, and that is delivered to campuses via a telecommunications network. Since the MELVYL union catalog only contains records of data published since the late 1970s, there is still a backlog of record loading to be accomplished. MELVYL is not programmed to be a circulation system. These considerations led the Library Automation Review Committee appointed by the University of California in 1987 to conclude: "It is now time to build a comprehensive, automated system as the basis of a truly unified University Library."

Automation of the university libraries was seen by the Committee as composed of two major elements: the campus systems and the union catalog. Operationally, these components require (1) a complete database including campus library databases and the union catalog, (2) a highly reliable system of telecommunications with responsive communications software, and (3) interfaces throughout the university system. In its "Report on Library Automation in the University of California, 1987-1992," the Committee outlined the priorities for implementation of the envisaged automated systems. The priorities were to:

> Fund the implementation of automated systems in every campus library and regional facility, while maintaining operation of the growing union catalog;

Provide permanent operating budgets to maintain the systems at the campuses and regional facilities, as well as the union catalog;

Provide specific one-time funding to complete retrospective and prospective conversion of all data for the full range of the library materials;

Provide specific funding for access to other database services for faculty and students as an addition to campus library funds or a subsidy to users; and

Provide additional permanent funding for purchase of library materials in electronic forms.

INDIANA

The Indiana Cooperative Library Services Authority (INCOLSA) provides automated support for interlibrary cooperation to all types of libraries in the state: public, academic, special and school libraries. No distinction is made as to whether the libraries are public or private enterprises. INCOLSA exists as an independent agency with a board of directors, as per state law on organizations devoted to interlibrary cooperation.

State funding, which in 1987 amounted to about $500,000 a year, goes directly to INCOLSA; there is no provision for withholding any amount for administration at the state level. Each new INCOLSA project is started with a grant from the state library. For instance, access to online databases was recently made available to member libraries, and initial fees were covered by grants, with later charges to be financed with local funds. Though it was the original aim of INCOLSA to fund completely telecommunications charges, underestimation of costs led to the establishment of an inadequate funding level. INCOLSA can now pay for only 50 percent of telecommunications charges.

Support of local automated systems is limited at present to two shared central system installations serving clusters of libraries. Indiana does not have numbers of large institutions, and the installations reported are intended primarily to serve smaller libraries. Indiana's installations are administered by INCOLSA, but costs of operation are shared by user libraries. State funds have not, as yet, been made available for an overarching system to provide for central automated facilities.

WISCONSIN

In 1983, the University of Wisconsin system formed a Task Force on Library Automation to develop recommendations for an integrated and automated system for all its libraries. Two short-term goals have been accomplished: (1) the purchase of integrated, automated systems with online catalogs, circulation and acquisitions systems at all University of Wisconsin institutions; and (2) the development of a computer system for the very large collections of the two doctoral institutions in the system.

For the eleven four-year institutions in the system, the OCLC LS 2000 system was chosen, and implementation is nearly complete. The OCLC LS 2000 is an integrated library automation system with circulation, online catalog and basic library functions. Microcomputer-based serials and acquisitions control programs interface with the OCLC LS 2000 system to provide these two functions. Because of the customized nature of the software used, each system stands alone; however, communication between libraries is possible via dial-in access. Assess to the online catalog is distributed throughout each campus via hardwired terminals, dial port selectors and multiplexors. Before 1990, the University of Wisconsin system plans to address the needs of the thirteen two-year system institutions.

The large collections of the two doctoral institutions in the University of Wisconsin System utilized the locally developed Network Library System (NLS), originally developed in cooperation with IBM and the University of Chicago. The NLS provides local processing for the online catalog while retaining an effective interface to one or more of the large national cataloging systems such as the OCLC. A mix of mainframe and minicomputers are used to support this system. In the next two years, acquisitions, serials control and circulation functions will be added to the NLS online catalog component through the use of NOTIS library system software. Though NOTIS does not possess online catalog and authority control capabilities as powerful as those found in the NLS, the linkage of those particular subsystems permits their immediate implementation without massive in-house development efforts. The system supports standard communication capabilities to allow users to access other computer systems via library terminals, to interface to various campus networks and to link with administrative systems such as personnel and the registrar. Dial access is also available for libraries or individuals, whether local, statewide or nationwide.

WASHINGTON

The Washington legislature in 1976 provided funds to establish a library network throughout Washington. The purpose of the network was to facilitate shared cataloging and resource-sharing among Washington's libraries. In 1978, the system was expanded to include other states. Though now incorporated, the Western Library Network (WLN) has maintained its state affiliation and is essentially a part of the Washington State library's organization for executive purposes. The State librarian of Washington is also the Executive Director of the WLN. The WLN Network Services Council is composed of representatives from the WLN membership. The Council advises the Washington State Library Planning Committee, which generally approves whatever the Council submits to them.

The only state funding allocated to the WLN was the approximately $1.2 million in start-up money provided in 1976. Over 95 percent of the current funding comes from the WLN membership; with the rest coming from the Library Services and Construction Act (LSCA) funds and private grants. The LSCA funds are given to WLN members by each State's state library; these funds are used to purchase WLN products.

OTHER STATES

Surveys conducted by other states indicate that Colorado, Minnesota and Pennsylvania also have automation projects underway. Colorado's seven research libraries cooperated to develop an online public access catalog, and circulation functions were integrated in 1984. Minnesota's State University System has completed an online catalog, the first phase of its library automation project. This online catalog was designed as a single database to be used simultaneously by each state university. Finally, the Pennsylvania State University's Integrated Library Information Access System (LIAS) was operational at one of the state campuses in 1983. At that time, plans were being made to extend all library functions -- integrated into a single system -- to the seventeen campuses in the Pennsylvania state university system.

SUMMARY

While several states have developed processes and networks for the purpose of library automation, the Florida Center for Library Automation has attained a level of development and sophistication that is matched by few library systems nationwide. Several states such as Indiana and Illinois that have developed automated support for interlibrary cooperation have not obtained the amount of funding required to achieve the goals of their respective state projects.

APPENDIX E

CONSULTANTS' REPORT ON
LIBRARY AUTOMATION AND NETWORKING IN FLORIDA

An Analysis of the Current System of Library Automation in Florida

A Report to the Florida State Board of Education
Postsecondary Education Planning Commission

January 1988

Submitted by:

Wilson M. Stahl

R.Stephen Painter

Bernard G. Sloan

An Analysis of the Current System of Library Automation in Florida

The three library automation consultants submitting this report were charged in the agreement for services "...to analyze Florida's current system of library automation and make recommendations regarding future direction and possible expansion to other sectors". This analysis included studying the documents supplied by the Postsecondary Education Commission staff and others, conducting interviews on December 17th and 18th with the people listed in attachment A, and attending the public hearing on this issue held on December 18th.

The consultants support Florida's overall objective of linking university, community college, public, and other types of libraries together through the use of library automation. However, this is not feasible to do with a single, monolithic automated library system. The approach the consultants recommend is to automate libraries in logical grouping and link the library systems with telecommunications networks. While tying together over 500 libraries is an ambitious project, it is feasible over the long term, and certainly will maximize the utilization of Florida's library resources. Studies have shown that implementation of an online catalog in a single library has usually increased library use by 20% to 50%. An even greater increase in the use of the overall library resources should be expected with the implementation of some form of state wide online catalog system.

The state of Florida has fostered many innovative relationships among libraries of different types. The consultants heard of cooperative relationships that consisted of various combinations of university, community college, public, and secondary school libraries. It seems important, in the consultants' view, to implement library automation in a way that will enhance these cooperative relationships among different library types rather than forcing the relationships to change in order to suit a particular technology. However, it must be understood that the governance and funding concerns are often more important than technological ones in implementing multi-type library automation systems. While the recommendations that follow will address various aspects of the governance and funding issues, these issues will require broader review by the appropriate State of Florida agencies.

Assessment of the Current Status of FCLA

Most of the information gathered by the consultants focused on the differing interpretations of the proviso statement included in the specific appropriations allocated to FCLA, the differing understandings of the role of FCLA, the current status of the FCLA implementation, and the desirability of adding libraries into FCLA. Even after hearing the discussions and reading the materials, the consultants cannot determine the correct interpretation of the somewhat ambiguous proviso statements attached to the specific allocations for FCLA. It is clear that the primary thrust of FCLA has been to automate the SUS libraries. As such, FCLA has not been able to make a concerted effort to determine the feasibility of adding other libraries. The consultants believe that it would be inappropriate for FCLA to make such a concerted effort at this stage in its development. However, the consultants also feel

that the pending request to add three community colleges to FCLA must be addressed this year to allow the community colleges to plan for library automation.

There seemed to be a general lack of understanding of the magnitude of the undertaking by FCLA and the short period of time that it has actually been in operation. FCLA has accomplished more in 2.5 years than would be normally expected over three to four years in implementing a system of the complexity needed by the SUS libraries. In their relatively short period of existence, FCLA should be proud of attaining the present level of automation of the SUS libraries and of providing dial access to the online catalogs of the ten participating libraries to many organizations and individuals throughout the state. Even in its present state of development, FCLA represents a tremendous resource for the entire State of Florida.

An aspect of the FCLA implementation that must not be overlooked is that FCLA is using the NOTIS system to support multiple libraries on a single mainframe computer, which is a use of the system that was not supported by the vendor at the time it was originally purchased by FCLA. Consequently, the FCLA staff has been much more involved in program development activities than is usually the case in implementing a "turnkey" automated library system. Normally, with a turnkey system the vendor supplies all the necessary software and hardware. If the system does not provide a feature the library needs, the library usually must wait until the vendor develops it.

More is being expected of FCLA than is reasonable given its current staffing and phase of implementation. On one hand FCLA is responsible for implementing the NOTIS system for ten libraries, while on the other its staff are expected to be consultants for libraries planning automation. Once the implementation of a system such as the NOTIS system is begun in a library, the priority must be to finish the implementation and maintain the system operation of the components already implemented. Any suspension of system implementation or operation can be disastrous to the library. To ask FCLA staff to work with libraries beginning to plan for library automation would be somewhat analogous to asking a surgeon performing a heart transplant to step out of the operating room and consult with someone planning to undergo a heart transplant.

Part of this desire to have FCLA work with libraries planning for automation is that FCLA is synonymous with library automation to many people. First, FCLA is not the only approach, and may not even be the best approach, to library automation for all the libraries in Florida. Second, while the FCLA staff are very competent and have developed expertise in library systems, they are not the only source of this type of expertise, nor is their expertise always in the areas a library planning for automation might need. A notable detail is that the staff of the SUS libraries provided much of the expertise needed to implement NOTIS at their respective libraries.

Feasibility of having all libraries share one system

While in theory it may be technically possible to have all 28 community colleges and the 9 state universities, or even all 500+ libraries in the state, share one monolithic automated system, such a

system supporting this many libraries does not currently exist. Therefore, this does not seem be an appropriate solution for Florida. The advantages of such a system are attractive. A shared system allows transactions, such as borrowing, to be done on a system wide basis from any terminal. However these advantages come with a high price. First, there is no system currently in existence that handles the number of libraries Florida wants to handle, or has all of the functions it desires. Illinois has a system that is well along in development and has many of these features. However, this system has been developed over the past eleven years and has cost in excess of 22.5 million dollars. Also the Illinois system does not handle the numbers of institutions anticipated by Florida. The circulation component of the Illinois system supports 29 academic libraries. The online catalog component of the Illinois system will provide local public access catalogs for these same 29 libraries. The Illinois state wide union catalog will support the resource sharing activities of more than 300 libraries of all types.

One single system for the entire state of Florida to provide basic automated library functions, such as acquisitions, cataloging, circulation, online catalog, and serials control, would probably be more costly than acquiring different systems and connecting them by a telecommunications network such as FIRN. Such an arrangement would be characterized as a distributed system as opposed to one that is centralized. A minimal type of connection for a distributed system would be to provide terminal-to-computer access. Whereby, at least one or two terminals in each library would have access to all of the other libraries' online catalogs. To query a given catalog, the user would have to use one of the terminals with access authority to log onto the specific library system. To perform an exhaustive search for a work, the user might have to log onto all systems within the state. The process of stepping through all of the catalogs automatically would be the next level of convenience. This could be performed with a microcomputer, or probably more successfully, with a minicomputer with permanent connections to each library system. Using the minicomputer, the user could search any or all library systems in the state with only one search command. The minicomputer programs to do this searching of different systems would have to be written, but the problem of developing and writing such code would be far less complex than developing one large, centralized system to serve all libraries.

The eventual path of development for a distributed system should be to have computer-to-computer communications as outlined in the document "LSP/SNI Protocol Specifications, Linked Systems Project: Standard Network Interconnection", which was developed as a joint project of the Washington Library Network, the Research Libraries Group, Inc., and the Library of Congress. The project was to develop computer-to-computer communications between the library systems of the three project participants. The techniques and procedures were based on the Open Systems Interconnection (OSI) standard as developed by the International Standards Organization. OCLC announced in 1984 it plans to implement LSP protocol to link other systems to its own.

Estimated prices for "turnkey" library systems that would handle libraries in the 200,000 to 400,000 volume collection range would cost in the $250,000 to $400,000 range. Annual maintenance cost is generally around 12% of the purchase price. Of course the prices will vary widely with the number of terminals, etc. needed. Vendors of such

systems include CLSI, Data Research Associates, Dynix, GEAC, Inlex, OCLC (LS2000) and VTLS. While the first year cost for acquiring such systems would be close to the estimate prepared by FCLA to add community colleges to the FCLA system, the cost for succeeding years would be significantly less. The primary reason for this is that NERDC, through FCLA, levies a transaction charge for each search on a terminal. With the stand alone, turnkey systems, there is no such transaction charge. Also, the stand alone, turnkey systems are usually sized to support the library system only, so that overall operating cost is lower. FCLA supports NERDC hardware that has much more capacity than is needed to operate the library system.

Another potential cost of a single system comes from the fact that the FCLA system as purchased was not designed to handle a large, multi-type library network. At various points in adding libraries to the system, limiting thresholds will probably be reached that will needed to be overcome. Working around these limitations, while technically possible, may require major staff and/or equipment resources. Also predicting where these thresholds will occur or what their overall effect may be is not always possible. As an example, the addition of a new library may suddenly lengthen overall system response time to an unacceptable level. The addition of libraries to FCLA would have to be done in a very gradual manner so as not to risk jeopardizing the operations of libraries already on the system. This gradual phase in time for adding libraries may not accommodate the needs of libraries needing an automated system in the near future.

A central system requires a certain degree of operational uniformity among the participating libraries and does not always allow the flexibility necessary to meet the needs of the individual libraries. This can have an adverse effect upon some of the multi-type library cooperative relationships already in place. Examples of uniformity might include range of loan periods available for the library to offer, hours of operation, and types of management reports available (e.g. public libraries often have very different report needs than do academic libraries). Also, in some cases, library functions provided by a sophisticated central system may be more complex than a library really needs or can handle. Additionally, the NOTIS software used by FCLA was designed specifically for use by academic and research libraries. Many libraries that are not academic or research libraries, may find that the system does not meet their internal needs.

Recommendations

The consultants recommend that Florida consider implementing a mix of systems in its libraries. These systems would be chosen on the functionality and cost benefit advantages offered. The system may be acquired by individual libraries or cooperative groups of libraries. The FCLA would be one system they could consider. A requirement for any library system acquired must be that it be able to communicate with the Florida Information Resource Network (FIRN). Acquiring a mix of systems would allow libraries to implement systems as they are ready and able to do so. It would also preserve the various cooperative arrangements that exist or will develop. Providing options other than FCLA would take away pressure from FCLA to add other libraries before the FCLA system is capable of handling them. In terms of the "Alternatives for the Automation of Florida Libraries" document prepared for the public hearing, this recommendation is a combination of alternatives 3 and 4.

Specific recommendations in support of this plan are:

1. Allow FCLA to continue its current implementation plans for the SUS libraries.

   This implementation plan will result in all of the SUS libraries having the basic functions they need as outlined in the TABLE 1 of the "Survey of Library Directors using the Florida Center for Library Automation (FCLA) Services" document dated 11/9/87. This is expected to take two to three years. Assuming the implementation remains on this schedule, have FCLA complete a new five year plan in Fiscal Year 1990/91 that would cover 1991/92 to 1995/96. This plan should include: system growth capacity (including assessing the ability of other RDCs to host similar NOTIS systems), a list of features to be developed or added in priority order, and projected operating and development costs. The five year plan should be revised each year to so that it reflects any changes and also so it continues to cover five years into the future.

2. Have FCLA establish as a priority to develop and analyze management data from the system.

   This data includes system use and requirements. This ability will be essential for development of the five year plan recommended above. This data will also be important in determining the impact and feasibility of adding libraries to the FCLA system. Therefore, the management report generation and analysis should be in place before FY 1990/91.

3. Review the organization and structure of FCLA.

   A statement of purpose should be developed as part of this review which would outline the scope of activities and broad objectives of FCLA. This should probably include renaming the organization to more accurately define its role. The organization should be set up so that it has an actual governing board rather than an advisory board as is currently the case. Also the organization should be set up so that it can contract with any agencies within the state. This will allow the organization to

support any library or group of libraries that is appropriate. This review should be conducted as soon as possible.

4. Have FCLA establish policies and procedures for handling requests by libraries to join FCLA.

   These policies and procedures should include requests to join on either a contractual or full member basis. The procedures should address governance considerations, costs, guaranteed level of service, and system impact study. At present requests are handled on an ad hoc basis. This ad hoc approach has the potential for FCLA not being able to offer responses to requests over the next several years. Obviously these policies and procedures will need to be done after any restructuring as outlined in number 3 above takes place.

5. Assign programmatic oversight responsibilities to the Division of Library and Information Services to assure that libraries adhere to national bibliographic standards and acquire only systems that can provide necessary linkages to the library network.

   A subgroup of the Florida Library Network Advisory Council would be a possible group to handle this responsibility. This group would be charged to review any request for support of a library automation project in order to make a statement about the project's compatibility with the development of an overall library network. The primary concern of this group would be to insure that all bibliographic data is captured in an acceptable machine readable format, and that any system acquired can provide remote access via FIRN. The group's statement would then be included with the library's request for support of the project. The oversight group would also be responsible for coordinating the various projects by keeping appropriate library staff throughout Florida aware of the status of projects.

6. Establish a library automation consultant position.

   This position would be needed for a limited number of years. There may actually need to be more than one full time equivalent position to accomplish what is needed. The role of this position would be to work with libraries considering automation or planning to automate. The responsibilities would include: to provide education for libraries about integrated library systems, help libraries conduct needs assessments for determining size and scope of systems required, assist libraries in preparing requests for information or requests for proposals from system vendors, help in the analysis of vendor responses to determine the library's best option, assist in the preparation of budget requests for the acquisitions of library systems, and assist libraries in the systems implementation process. This position will need to have very close ties to the group recommended in number 5 above. A logical place to locate this position might be the State Library.

7. Evaluate and support state wide telecommunications network.

   Much has been said and assumed about FIRN's ability to support a state wide library network. However, there seems to be no mechanism in place to coordinate the library network's growth

(and dependency on FIRN) with planning to enhance or expand FIRN. Also, it appears that the same type of governance issues that arose about FCLA and the SUS and the community colleges may also be applicable to FIRN. The SUS apparently support an IBM-based SNA network with bridges to the packet switching network operated by FIRN. However, the SUS do not support FIRN or its packet switching network directly. Further, a pattern of migration of the community colleges to the SUS operated SNA network seems to be emerging. If this migration continues, the state wide telecommunications network could shift to being almost totally SNA. Since any system that is installed for library applications should be networked to all other such systems, having a primarily SNA network could limit the systems that could be considered. If state wide networking and the development of library systems are not coordinated, libraries could wind up with systems that do not communicate with the state telecommunications network.

8. Have community colleges acquire or contract with the library vendor that best meets their needs.

This would allow the community colleges to obtain systems that will best meet their local needs. As mentioned above, one of the options would be for the community college to contract with FCLA. In many cases these systems will be locally shared systems among cooperating libraries. These shared systems would become library resources accessible via FIRN. Each vendor, whether FCLA or a commercial vendor, would be responsible for providing training and system support. Since all community colleges would be unlikely to contract with FCLA, the training and system support demands on FCLA could be kept to a manageable level. Community college libraries that are in desperate need of an automated system could move ahead and not be bound to FCLA's ability to add new libraries.

9. Through the office of the individual recommended in 6 above, a contract should be negotiated with vendors to supply turnkey library systems to community colleges as needed.

Specifications for a system that would serve most of the community college libraries' needs should be written and competitive bids solicited. By negotiating a contract with one or two vendors to supply several systems, the community colleges would not have to write their own individual specifications, and the system purchase price may be less than individually bid systems. The group described in 5 above should have the responsibility for reviewing requests for library systems other than using FCLA or one of the systems on contract.

10. Support membership in SOLINET/OCLC for retrospective conversion and interlibrary loan.

The most fundamental activity a library can do to prepare for library automation is to "capture" machine readable records for their collections. By doing this for their existing collections and new materials as they are cataloged through the national OCLC network, the libraries will be assured that their records will be in the most widely accepted machine readable bibliographic format. These records can be utilized by virtually any automated library

system to build the online catalog. SOLINET (Southeastern Library Network) is the regional node for OCLC.

Using the OCLC network will also allow Florida libraries to readily access each other's collections so they can be borrowed through interlibrary loan. Membership in SOLINET/OCLC will also allow online access to the holdings of over 6,000 libraries. OCLC does not provide as many access points as a full online catalog, but it can be a very effective collection sharing tool anyway.

11. Coordinate funding for cooperative library automation projects.

Florida should encourage development of library automation projects that support existing and planned library cooperative relationships. These cooperative relationships often involve libraries, such as university, community college, and public libraries that have different funding processes from one another. Because of the interdependence of the libraries in these cooperative relationships, it is important that the funding request from any participating library for part of a cooperative automation project be reviewed in light of the whole project. Failure to fund one portion of the project could jeopardize the entire project. Therefore, it is recommended that a process be established whereby such joint projects could be reviewed by some group, such as a joint legislative appropriations committee, as a total project.

Summary of Recommendations

It is significant to note that each of these basic recommendations were formulated by the consultants before the public hearing. Yet each of these recommendations were made during various people's testimony during the public hearing and generally acknowledged to be a logical approach to take.

The consultants would like to thank everyone who participated in this study for their openness and cooperation.

Attachment A

Individuals Interviewed

December 17 and 18, 1987

Linda Collins, Legislative Staff

Jim Cory, Director of FCLA

Patrick Dallet, Postsecondary Education Planning Commission

Terry Dickinson, Director of FIRN

Paul McGinniss, Computer Software Specialist, FIRN

Nancy McKee, Legislative Staff

Charles Miller, Chairman, FCLA Advisory Board

Peter Mitchell, Legislative Staff

Bill Odom, State Board of Community Colleges

Paul Parker, State Board of Community Colleges

William B. Proctor, Postsecondary Education Planning Commission

Linda A. Recio, Postsecondary Education Planning Commission

Pat Schmidt, Board of Regents

Barry Wilkins, Division of Library and Information Services

State of Florida
Department of Education
Tallahassee, Florida
Betty Castor, Commissioner
Affirmative action/equal opportunity employer